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ABSTRACT

This unit on population, designed for senior high school students, is divided into six packets with the following major topics: general introduction to the effects of a growing population, urbanization, family structures, family planning, consumption, environmental decay, and controlling the environment. Each packet contains a list of the topical concepts to be taught; the behavioral objectives and the expected student criteria for evaluation; pretests and posttests; teacher background information; a suggested instructional sequence; a student booklet with instructions, activities and relevant readings; and a teacher bibliography. (MLB)

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ENVIRONMENTAL ECOLOGICAL EDUCATION PROJECT

Parkway School District
Chesterfield, Missouri

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UNIT: POPULATION

Sr. High

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Packet I
SETTING

With our cities and countryside suffering from dirty air, our lakes and streams poisoned by pollutants, our highways and roads being covered with automobiles, and people finding it more difficult to smoothly interact with others in their community, more attention is being focused on the "people problem" - population growth - as being a cause or at least an ever present factor in the milieu of problems facing society today.

This introductory packet will attempt to show that increases in population could and should be considered as a factor involved in today's society. It is hoped that if the concept of "population" is fully understood, you will then see its dynamics (depending on such variables as births, deaths, immigration and emigration rates) and consequently, its tremendous ramifications or impact on many facets of your everyday life. Implied in this introductory packet is the notion that variability of population can mean great differences in social, economic and political institutions.

Packet II
SETTING

The United States is becoming an urban nation. Seventy-four percent of the population now lives in urban areas. America has changed from a country of farms and small towns into a nation of cities and metropolitan areas. What effects will this dramatic change have on the lives of all of us? This is hard to answer, but a few results are becoming increasingly apparent.

As population growth and mobility occur within our nation, many of our communities undergo a tremendous change. Not only is there the obvious physical change of a rural area that has become urbanized or an urban area that has become suburbanized, but also changes in the way we act, think and feel towards one another. One example of this is the socio-economic division of an urbanized area into many small subcommunities. Here we see an example of the effect of more people on man's interpersonal relationships with others around him. Indeed, the physical "face" of a community and the life style within it are now one aspect of the "people problem."

Packet III
SETTING

Only about 10% of the population of the United States does not live in some type of family setting. Most of us obtained our first social experience from the family. For many Americans, the family is the only true primary group that they experience in a world filled with bureaucracy. In fact, the family is the institution which Americans are least likely to give up.

Yet, no one contests the fact that family life in America has undergone tremendous changes in recent years. Though the family has been affected by population increase, urbanization, and industrialization, this packet attempts to show those affects which have come about or are related to population increase. Because of this particular element, we find family responsibilities changing. The world of the child is being opened more to out side influences, and the roles of the mother and father are changing to meet a society more densely populated and filled with a multitude of new attitudes and mores. Exactly how population increases have changed one of America's most important institutions from authoritarian in scope to equalitarian in nature, is the focus of this packet.

Packet IV
SETTING

Perhaps the greatest impact of population increase has been in the area of family planning. A mass increase in birth rates has caused scholars as well as the average family man to give greater thought to the issue of whether or not there is a "population explosion" and, if so, is it the result of poor family planning. Consequently, this issue has become a controversy with opposing viewpoints becoming more prolific each day.

In this packet, you will be asked to arrive at some judgements about the issue of family planning. Is it the panacea for the ills that overpopulation has brought, or is it merely being used to draw attention away from social pitfalls such as poor management of natural resources and the demand for production of manufactured goods? It is a form of murder to allow abortion or are we saving the living by not allowing more people in the world? Is an unborn fetus a human life or merely an incomplete replica of human form? These questions should be answered in your own mind as you progress through this packet and search for the answer to "family planning" and its relation to an increasing population.

Packet V
SETTING

Is this a true statement? Increasing populations cause an increased consumption of energy, food, and material goods, resulting directly and/or indirectly in the increased pollution of the environment and the subsequent disruption of the ecology of the earth.

Many experts feel this statement is true, while others feel factors other than population growth are responsible for increased consumption and environmental degradation.

Many experts are hoping this statement is not true since they see no end to the population explosion. How do you feel?

The activities of this packet will involve you in this issue head first, and hopefully, feet last. Head first with some game playing, literature searching, and data analyzing and feet last with some field trips, laboratory testing and art work.

Packet VI
SETTING

In previous packets, you have been given a chance to see what the "population explosion" means and specifically, how the increased population has played a large role in the complex problems which befall man in his environment. Hopefully, you have come to understand that many facets of your social, economic and political surroundings, i.e., your environment, can be traced to variations in population.

However, it is also hoped that you have come to realize that the "community" is really nothing more than what the <u>people</u> living in a given area choose to make it. Man and his environment are too closely related to be separate from one another. Increases in the number of people and the types of people who reside in a community will have far reaching affects on the total environment. Ultimately, then, man himself is responsible for controlling and capable of solving environmental problems. He may choose to alter his economic situation or even use legislative control to accomplish this. But in the end, each man must search his own value system to find solutions for environmental problems. Consequently, we see that more people in the environment means a greater variety of personal feelings concerning how that environment should be governed. In the end, we realize that economic policies, social mores or even legislative acts regarding the environment will only be the outgrowth of what a majority of the individuals in the community feel they value the most in life.

INTRODUCTORY PACKET

I

CONCEPTS AND BEHAVIORAL OBJECTIVES
Introductory Packet

I. Many of the issues which exist in today's society are the result of an increase in population.

1. The student will be able to separate a list of ten issues fascing society into three categories:

   a. issues directly related to population increases
   b. issues indirectly related to population increases
   c. issues not related to population increases

II. The rates of birth, death, immigration and emigration are the four variables which determine changes in population within a given geographic region.

2. The student will be able to select from a list of ten variables, those four variables which affect population change.

3. The student will be able to write four one sentence hypotheses (one hypothesis for each population variable) concerning increases or decreases in future population of the U. S.

4. Optional - Given Birth, death, immigration and emigration data of a nation for a particular year, the student will be able to compute the rate of change in population of that nation.

Administer pre test at this time

PRE-POST TEST - PACKET I

1. Take the following list of ten issues facing society and separate them into three categories: (1) Issues directly related to population increases, (2) Issues indirectly related to population increases, and (3) Issues not related to population increases.

A. Watergate Bugging
B. Rising Food Prices
C. Venereal Disease
D. Bombing of Cambodia
E. Urban Renewal
F. Birth Control
G. Abortion
H. Legislation of Drug Usage
I. Interracial Marriage
J. Hijacking

2. From the following list of ten phrases, select the four factors which are most closely associated with effects on population changes.

A. Birth Rate
B. Abortion
C. Death Rate
D. Medical Technology
E. Fertility Rate
F. Immigration Rate
G. Family Planning
H. Race
I. Religion
J. Emigration Rate

3. Write four hypotheses (each hypothesis no longer than a sentence) concerning the four variables involved with increases and decreases in the future population of the United States.

4. Suppose the United States had a total population in 1960, of 183,945,321. In the next ten years there were 30,231,000 births, 1,384,982 deaths, 3,284,000 immigrants, and 238,000 emigrants. Compute (A) The total population for 1970, and (B) The net rate of change in the population over this 10 year period.

ANSWER SHEET
PRE-POST TEST
Packet I

1.

Category 1	Category 2	Category 3
E	B	A
F	C	D
G	I	H
		J

2. A, C, F, J,

3. A) An increase in births will increase the total population.
   B) An increase in immigration will increase the total population.
   C) An increase in deaths will decrease the total population.
   D) An increase in emigration will decrease the total populatin.

4. A) 215,837,339
   B) .17 or 17% Increase per 100 people

BACKGROUND INFORMATION - PACKET I

Concept I

In deciding to have the first packet of this course be an introductory packet, it was the belief of the writing team that most people feel there is a population problem and further, that increasing populations are causing dynamic affects on many phases of life. Yet most people are not sure how population affects life or why. Thus, when trying to study the topic, one finds various writings, most of which express totally differing views.

First, it was felt that before studying the dynamics of the population problem a basis had to be established for creating the idea that population is dynamic and is one of the most important issues facing society today. Consequently, this packet is approached with an "inquiry" technique in order for the student to delve into what are the controversies facing society and whether or not population itself can be related to them. Secondly, it was felt that the student would then have to understand what comprises population changes (birth, death, immigration and emigration).

Thirdly, when the student formulates the idea that many problems of society are related to population growth and understands what exactly accounts for population growth, he would then be fully equipped to explore and examine how certain areas of life are related to and greatly affected by population change.

Thus it can be seen that this introductory packet, centering on issue identification, issues relating to population, and variables determing population change, is really setting the stage or leading in to the "problem" units which follow.

One last statement should be made, and will be continually considered throughout the course. That is, that in no way is this course trying to expound the idea that more people are the cause of society's problems. Even though this first packet introduces the student to the dynamics of population, it also carries the underlying idea that population growth can possibly be related to many issues with which we are faced. At all times the teacher should remember not to handle solutions to population growth as a panacea for the ills of society. Nor should you teach that population growth is totally responsible for issues that are studied in depth in later packets. Allow the students to speculate and hypothesize at all times. An example of this is Family Roles (see Packet III). They are changing due to increased population density; however, another possible reason is increased technology! Therefore, do not approach this or later packets with population growth as an absolute cause.

The readings which follow are to give you some background information (mostly factual and interpretive) on population growth as a controversial issue. Also included are some readings on the four variables involved with population change. After reading this information, you should be well equipped to deal with the unit concepts.

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Population and Environment

PAUL R. EHRLICH AND JOHN P. HOLDREN

The people problem

Opposite points of view concerning the relationship in this country between population size and the environment have recently been expressed. According to one view, the United States is one of the most overpopulated countries in the world. That conclusion is based on the enormous stress our affluent population exerts on the environment and on the Earth's store of resources. The other view, espoused by some economists and demographers and at least one prominent biologist, holds that environmental deterioration in the United States is due primarily to the misuse of technology, with population growth having only a minor effect. The implied conclusion is that the current concern with population size and growth rate in the United States is misdirected.

We wish the environmental problem (which is only one of many reasons for halting population growth in the United States) were really this simple, but it is not. Rather, if there is to be any chance of success, we must mount *simultaneous* assaults on many fronts. We must curb extravagant affluence (for example, 300-horsepower automobiles), economic growth for growth's sake (planned obsolescence), the accelerating conversion of resources into waste ("disposable" everything), the application of massive technology toward ill-considered goals (the California water project, the SST), ecologically absurd practices (present fertilizer and pesticide abuses), *and* population growth itself. The contention that it will suffice to attack any one of these areas alone, or any combination not including the last, is naïve and misleading. We will discuss here three of the fallacious assumptions on which that contention rests.

Assumption I. *A 1 per cent increase in population generates a 1 per cent increase in man's impact on the environment.* The proponents of the "no-population-problem" position are mesmerized by statistics demonstrating that some forms of pollution in the United States have increased by several hundred per cent since 1940, while population has increased only about 55 per cent. Presumably, they would conclude that if population had remained stationary since 1940, pollution would be reduced by "only" 35 per cent from today's level (55/155=35 per cent). But 35 per cent of the 1970 impact is, in absolute terms, an enormous load on the environment. So, even if Assumption I were correct, it is clear that complacency about the population-pollution relationship is unjustified.

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In fact, however, an increment of population growth in today's industrial nations has a highly *magnified* impact on the environment. For example, urban areas tend to expand into adjacent prime agricultural land, ultimately leading to more intensive farming of more remote and less suitable regions. This means increases in *per capita* use of fertilizers and pesticides, and more transportation systems for these manufactured inputs and the produce. Other essentials of existence must be extracted from resources already past the point of diminishing returns. One pertinent example is the disproportionate amount of dollars, energy, and environmental havoc associated with supplying water to an increment of population anywhere in the southwestern United States; others include moving to ever lower grades of mineral ores (chewing up more earth per pound of metal required), and perilously extracting oil from geologically or ecologically unstable regions (the Santa Barbara Channel, Alaska's North Slope).

Simple "thought-experiments" demonstrating the absurdity of Assumption I are also readily devised. Imagine two cities of a million inhabitants each, connected by ten miles of freeway. Suppose a 50 per cent population increase in the area is absorbed in the form of a third city of the same size, ten miles equidistant from each of the other two. If the obvious additional freeways are built, we see that a 50 per cent increase in population has stimulated a 200 per cent increase in freeway mileage. The real world, of course, is more complicated than this.

Assumption II. *Adverse effects of man's activities can be reduced virtually to zero.* Pollution can be said to be the result of multiplying three factors: population size, per capita consumption, and an "environmental impact" index that measures, in part, how wisely we apply the technology that goes with the consumption. The wiser we are, the smaller the index. Those who contend that environmental deterioration is unrelated to population growth can only do so by claiming that this index (and hence the total pollution by a population of any size) can be reduced for all practical purposes to zero. Since this is demonstrably impossible, the case against the importance of population size collapses on this account alone.

To begin with, the ways in which we can reduce our impact (for example, changes in power sources, transport systems, sewage treatment, and the use of fertilizers and pesticides) are far from perfect; most attempts to eliminate pollution really only shift and redistribute it. For instance, the switch from fossil-fueled to nuclear electrical generating plants replaces conventional air pollutants with low-level emissions of radioactivity, and it results in an additional burden of incredibly toxic, concentrated wastes to be disposed of. Similarly, the incinerating of garbage pollutes the air, smog-control additives and devices normally increase some emissions while reducing others, and a return to reusable containers will increase use of polluting detergents. Moreover, there is an ultimate and inescapable pollutant associated with man's activities, for the laws of thermodynamics dictate that all the energy we consume will ultimately be degraded to waste heat. The ecological and climatological consequences of this problem are already important in cities and areas near power plants, and will eventually become globally significant. We emphasize in this connection that the technological control of other forms of pollution has a cost in energy, and the cost increases sharply as one tries to reduce the pollutant concentrations to arbitrarily low levels. Clearly, even if we knew enough about the intricacies of the ecosystem to do everything

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right (which we do not), a finite impact—proportional to population—would still remain.

Elementary biological considerations lead to the same conclusion. As organisms with needs for food, air, water, and waste disposal, we *must* interact with our environment, and whether these interactions produce unacceptable changes in the biosphere depends on the adequacy of natural systems to buffer them. In other words, pollution is a quantitative as well as a qualitative problem: Having biodegradable effluents will buy us nothing once the capacity of the available "bios" is exhausted. Abundant evidence of malfunction in the world's ecosystems suggests we are already perilously close to that point.

Assumption III. *Of all the possible attacks on pollution, population control will be the slowest to take effect; it should therefore be assigned lowest priority.* Because of the enormous inertia in human attitudes, and because of the high proportion of young people in the United States (the ranks of persons in the reproductive ages will soon swell), it is true that even dramatic advances in population control will be slow to bring the growth rate to zero. But to argue that this means we should defer action on population control is twisted logic at best. Precisely because population control is the slowest and most difficult to yield among the components of environmental deterioration, we must start on it at once and with vigor. Such action need not divert attention from the necessary broadside attack on the symptoms of pollution; we must find the resources and the skills to do both, for any success with the symptoms increases the odds that the ecosystem can endure the lag between initiation and success of measures to stabilize population. But to ignore population control today because the problem is a tough one is to commit ourselves to even gloomier prospects twenty years hence, when most of the "easy" tricks to reduce per capita impact on the environment will have been exhausted. The desperate measures for population control that might be contemplated then are reasons in themselves to proceed with foresight and alacrity today.

Hidden effects of overpopulation

Several subtle aspects of the relationship between population growth and environmental degradation operate to make man's predicament even more perilous than superficial analyses indicate. Four to be considered here are *synergisms, threshold effects, trigger effects,* and *time-lag effects.*

A *synergism* is the interaction (constructive or destructive) of two or more factors that yield a total effect greater than would occur if the factors operated independently. In colloquial terms, it is a situation in which the whole exceeds the sum of its parts. A suspected synergism in environmental health is the interaction of sulphur dioxide (from coal-burning power plants) and asbestos particles (from automobile brake linings) in inducing lung cancer. The sulphur dioxide interferes with the process by which foreign particles are expelled from the lungs; that, in turn, increases the residence time of the carcinogenic asbestos and hence the chances of contracting the disease. Many other destructive synergisms are known, and one can speculate about even more ominous ones yet to be identified—perhaps an interaction between low-dose radiation and persistent pesticides, which could affect vital components of the ecosystem or man directly.

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The connection of such effects to population growth is clear. As populations grow and the associated technologies increase in power and variety, a broadening array of biologically active wastes is distributed in ever more overlapping spheres of influence. Substances that previously rarely came in contact with each other now commonly occur together. Fertilizer residues and oil spills now pollute coastal waters once devoid of either, and pesticides, toxic lead compounds, and man-made radionuclides move simultaneously through important food chains.

A second aspect of the response of environmental systems to the wastes generated by human populations involves *threshold effects*. At levels or rates below a threshold, many sorts of impact are buffered by the environment without adverse effects. Manure is naturally processed into humus by microorganisms in the soil, and organic matter introduced into rivers is decomposed in a similar way. Increases in atmospheric carbon dioxide are partly self-correcting because they stimulate an increase in the rate of carbon dioxide-consuming photosynthesis (and part of any excess is absorbed by the oceans). Unfortunately, such systems are all too easily overloaded—the thresholds can be exceeded—with consequences ranging from nuisance odors to potential climatological disaster.

Perhaps the classic example is the plight of many of the rivers of the developed world, whose capacity to absorb sewage and industrial wastes has long since been exceeded. Although a thousand people may dump their raw sewage into a stream with impunity, ten thousand may hopelessly pollute it; activities that appear entirely innocuous when carried on by a small population may be disastrous for a larger one. We understand only a few natural systems well enough to identify their thresholds quantitatively, but we continue to play the game of growth, a procedure guaranteed to find them all by experiment. The demise of so many of our rivers does not seem to have taught us the lesson; perhaps that of the oceans will.

A related third possibility, usually overlooked by those who insist that the population/environment crisis has been exaggerated, is the *trigger effect*, in which an environmental balance is upset by a relatively small man-made input. A little-known example is the triggering of earthquakes as a result of filling the reservoirs behind large dams—dams that are built to supply the water and power needs of growing populations. The stress associated with the weight of the water impounded by the dam may lead to fault slippage, which releases far more energy than man put in. Hundreds of seismic events, with magnitudes up to 5.0 on the Richter scale, resulted from the filling of Lake Mead in the years 1935–39, and an earthquake of magnitude 6.4, caused by the filling of the Kogna Dam, killed 200 people in India in 1967. Less bizarre and perhaps much more serious trigger effects may intrude wherever the environmental status quo is maintained by opposing forces in balance: in predator-prey relationships that affect the human food supply, in the soil and water conditions that encourage or inhibit the growth of certain viruses

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and other agents of disease, in the chemical reactions of the upper atmosphere that maintain the Earth's protective screen against ultraviolet radiation.

The difficulties in predicting, identifying, and alleviating any of the phenomena discussed above—synergisms, threshold effects, and trigger effects—are compounded because they may operate in conjunction with a fourth factor: *time delay*. Time delay refers to situations in which causes may precede their effects by years or even decades. This can come about in a number of ways. With many persistent pesticides, the process of concentration consumes time as the substances move from level to level up the food chains. This results in a substantial lag between the original application at low concentration and the appearance of pathological effects high in the food web. For reasons not entirely understood, induction of various forms of cancer by exposure to radiation is characterized by "latency periods" ranging up to thirty years. Particulate pollution, more than 50 per cent of it dust from agricultural activities, is cooling the Earth and bringing on climatic changes. The full consequences of this trend may not be apparent for decades or longer.

Many other conditions associated with man's environmental meddling are also characterized by dormant stages preceding the appearance of identifiable symptoms (e.g., certain parasitic diseases and genetic effects associated with various chemical pollutants). Usually such a time lag means that when the symptoms finally appear, corrective action is ineffective or impossible. If *all* use of persistent pesticides were stopped tomorrow, the concentrations of these substances in many critical organisms—and the associated damage—would continue to increase for some years to come.

Consideration of the four classes of phenomena discussed here—synergisms, threshold effects, trigger effects, and time-delay effects—suggests that population growth today is committing us to a degree of environmental degradation not yet fully apparent.

Deceptive birth rates

Informed demographers and ecologists have recently been surprised to see the end of the population explosion celebrated in a spate of newspaper editorials and columns. Headlines such as FALSE PROPHETS OF DOOM, ridiculing those scientists concerned about population problems, have greeted readers across the nation. The stimulus for this outpouring has been preliminary reports of the 1970 census, projecting an increase in the American population of "as little as" 75 million people by the year 2000. We do not quarrel with these figures themselves; the census has only reinforced conclusions accepted in the demographic literature for several years. But it is difficult for us to understand how a population increase of some 35 per cent in an already overpopulated country can be regarded as the conclusion of the population explosion, especially when the demographic situation contains the potential for substantial additional growth in the next century. The optimists should note that even if the reproductive rate drops to the replacement level by 1980, the population of the United States will level off at more than 300 million in 2045. If we should not reach the replacement level until the year 2000, population growth will stop in 2065, with a final population size of more than 350 million people.

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The replacement level would correspond to each female infant born today ultimately producing, on average, one female offspring (that is, replacing herself). Reaching this situation, defined by demographers as NRR (Net Reproductive Rate) = 1.0, would not lead to zero population growth (ZPG) at once, because of persons still living who were born when the NRR exceeded 1.0. It will take sixty-five to seventy years (roughly the life expectancy) following the achievement of replacement reproduction to reach ZPG in the United States. The ballyhoo about the end of the population explosion notwithstanding, we have not yet even reached NRR = 1.0 (the 1967 figure was 1.213). Moreover, if the NRR reaches unity, there is no guarantee that it will remain there.

Much attention in the press has been focused on the birth rate, at best, a crude index of fertility and an incomplete indicator of the demographic situation. The difference between the birth rate (number of people being born per thousand people in the population per year) and the death rate (number per thousand dying) gives the natural rate of increase for that year. Adding migration to the calculation gives the overall growth rate. Some demographers, who should know better, compound the public's confusion both by continuing to focus attention on the birth rate alone and by erroneously stating that it is now at an all-time low. The fact is the *Monthly Vital Statistics Reports* of the U.S. Public Health Service show a bottoming of the birth rate in late 1968 or early 1969, and a subsequent and continuing increase. This came as no surprise to those familiar with the age structure of the population (the relative numbers of people in different age groups). Specifically, the low birth rates of the middle 1960s were due in part to the small number of women in the reproductive years. They were the scarce wartime babies. Now the abundant World War II boom babies have grown into women who are moving into their peak reproductive years. This age-structure effect is causing a predictable rise in the birth rate. In view of the disconcerting lack of public awareness regarding these matters, one can draw three conclusions: It is irresponsible for any demographer to mislead the public about the present birth rates; it is unprofessional to discuss birth rates outside the context of the age structure; it is inexcusable to omit from the discussion the all-important relationship between birth rate and death rate in determining the growth rate.

At the "all-time" low birth rate, the U.S. population was growing at about 1 per cent per year, with 80 per cent of the growth contributed by the difference between birth and death rates, and 20 per cent by immigration. This "slow" growth rate, if continued, would double the population in about seventy years. A little elementary arithmetic shows that such a rate is unsustainable for any considerable period, even if ecological and social factors are ignored. But, of course, these factors cannot be ignored. Most of our environmental problems and many of our social problems have been and will continue to be exacerbated by population growth. That a 50 per cent increase in population will stimulate a dispro-

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portionate deterioration in many of these problem areas adds to the urgency of moving rapidly to zero population growth and, ultimately, to a declining population size.

The "responsible, orderly approach" to NRR=1 advocated by many conservative demographers and sociologists in fact consists of a go-slow program that condemns us to perhaps another century of population growth, as should be apparent from the above discussion relating NRR and ZPG. This attitude is defended by references to relatively easily managed social problems arising from seeking a stable population, and by a naïve underestimation of problems in resources and environment. If these individuals are successful in preventing our society and others from taking enlightened voluntary steps toward population control, the most likely outcome is that population will be "controlled" automatically by a massive rise in the death rate brought about by war, plague, famine, ecosystem collapse, or some combination of these. Alternatively, by delaying intelligent steps now, the go-slow contingent increases the chances that governments awakening too late will institute repressive, racist, or otherwise socially repugnant measures.

To prevent such outcomes, we should press by all acceptable means to reduce the NRR *below* 1.0 as soon as possible, in the hope of achieving ZPG by the end of the century. Those journalists who describe us in this advocacy as "prophets of doom" would do well to learn enough elementary ecology and demography to be able to discriminate prophets of doom from those working to avoid it.

The American Population Debate. D. Callahan, Editor. Doubleday and Co., Garden City, N.Y., 1971.

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THE LAW OF POPULATION INCREASE

by

Charles G. Darwin

Concept II

It is worth conjecturing what will happen if the law of increase continues to be allowed to work uncontrolledly as it does now. We shall quite soon reach a limit when life becomes hard again in the manner that it did only a few centuries ago. This will end such things as affluent societies and welfare states, because only a limited fraction of those born can expect to survive for what we now consider the normal expectation of life. This should not mean a relapse into barbarism, for the very simple reason that barbarians can only live at a much lower density of numbers than civilized people, and so the retention of civilization will have a strong survival value. But it is hardly to be expected that this civilization will carry with it the kindly, rather facile charitableness that we tend to associate with it. It must become much tougher, and our descendants will look back to the nineteenth and twentieth centuries as a golden age of easy life.

It is then worth considering whether there is any possibility of avoiding these increases and what that would entail. In the first place, if we can find a way of controlling our numbers, why do we not put it into practice at once: it is not evident that a world of five billion is in any way better than a world of three billion. To do this we have to find a way of breaking a law which all our ancestors have obeyed for a billion years, and it is evidently a most formidable thing to attempt. It might indeed be judged hopeless, if it were not for the fact that there is another universal genetic law which we still obey, though we have found out how to get round its consequences. This is known as the law of the noninheritance of acquired characters. Among animals each individual acquires all its characters from its germ cell, and none from any of the characters its parents have acquired during their lives. Genetically we still obey this law completely, but we have got round its consequences by our ability to communicate with our fellows. For example, our present explosive increase of numbers is due originally to only a few individuals, the scientists who inaugurated and developed the scientific revolution, and yet the whole human race has enjoyed the consequent prosperity. Can we hope to break the law of increase in some similar manner?

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There is one most formidable genetic consequence to be faced if this aim is achieved. For the past two centuries we have succeeded in some countries in avoiding the main consequences of natural selection: anyone can survive without having to undergo the stringent test of the struggle for life. Our aim would be to extend this condition to the whole world. It may do little harm for a few generations, but it is questionable whether it will not carry the consequence of a gradual degeneration in human qualities in the long run through the preservation of all the inferior mutations in man's genetic equipment. Such mutations are constantly occurring in the case of man as well as of all animals, and in the past it has been through their perpetual elimination in the stringent struggle for life that the marvels of evolution have occurred. If then we succeed in our aim of limiting numbers artificially, have we got to face a slow degeneration in the qualities of the human race?

More serious difficulties arise when the machinery of limitation is considered. There would be an instability in the process in that if half the world accepted limitation, while the other half refused, all too soon the limiters would be in a minority, and in the end the nonlimiters would dominate the world. To have any hope of success then there would have to be a worldwide enforcement. This would at once attack one of the predominating characteristics of mankind, our hatred of discipline, which we are apt to sanctify by calling it the love of freedom. It would seem then that success is only likely to be achieved at the expense of a sacrifice of one of our most prized ideals. And there remains the question how any world government could be established which would be capable of enforcing such a system in perpetuity.

I have tried to set out some of the problems to be faced if we are to achieve a continuation of human living in the manner that we would most certainly wish for. In every way let us strive to accomplish this, but the prospects do not seem to be very good, and as a personal opinion it seems to me unlikely that we shall succeed in continuing our present conditions of life over any long period. To judge by many authors this would seem to be regarded as the end of any world worth thinking about, but I do not agree. From the writings of the past, when natural selection was in full operation, man appears to have been as happy as he is now, and I see no reason to think that in the future, when the struggle for life again becomes severe, the human race will lose happiness, even if they do look back with regret to the passing of the golden age in which we are now living.

Our Crowded Planet. F. Osborn, Doubleday and Co., Garden City New York, 1962.

WORLD POPULATION

by

Colin Clark

Concept II

If not impeded, the probability of conception in fertile human couples appears to average 0.1 per menstrual cycle, higher for first conceptions, but otherwise irrespective of age. From a minimum of 3 percent, the proportion of infertility rises rapidly with age from 25 onwards. Infertility, at any given age, appears greater among coloured than among white races. The assertion that natural human fertility rises with undernourishment rests upon no evidence whatsoever.

This probability of conception, allowing for some miscarriages, and some temporary sterility during lactation, implies the birth of a child for every 2 1/2 years of married life, as observed in England a century ago, or in some peasant communities now.

'Total fertility', defined as the number of children born to an average woman by the end of her reproductive period, in the circumstances most favourable for reproduction, when every woman marries young, and with surplus males waiting to remarry any widows, assuming the onset of infertility of the average twenty years after marriage, should be 8 (that is to say, 20/2½). This rate is indeed found among those (very few) Irish women who are married young, to young husbands, and who are not widowed; rates of 6 to 7 are found among primitive nomadic peoples, and among peasant populations in Asia and Latin America; considerably lower figures are found in Africa, where the percentage of infertility is unaccountably high. The highest total fertility ever recorded was 10, for the early French-Canadian settlers; but they were a group specially selected for vigour and hardihood. Evidence from India indicates that the consummation of marriage below the age of seventeen tends, in the long run, to reduce rather than to increase total fertility.

Writing in 1798, Malthus taught that populations always tend to increase up to the limits of their food-producing capacity, whereupon population growth must necessarily be checked, if not by late marriage (which he recommended) then either by 'misery' or by 'vice'. In the same year Jenner was publishing his proposals for vaccination against smallpox, which probably did more than any other single factor to bring about the great rise in population in the nineteenth century. Malthus, however, stated that Jenner's work was a waste of time, because the "principles of population" indicated that, even if he were successful, it was inevitable that some other disease would spring up to take the place of smallpox. Instances of populations growing rapidly until they reach the limits of food supply have occurred, but exceptionally, and certainly not generally in the history of mankind.

For the greatest proportion of mankind's time upon Earth our ancestors lived the life of nomadic hunting peoples, which involves high mortality, with few people surviving to the age of forty. In these circumstances, a total fertility of 6 or 8 will only just suffice to maintain the population This is observed among some primitive tribes today. The present world average rate of population increase is 1 1/2 percent per annum, as against

1 percent in the nineteenth centruy. From approximate figures of world population (errors in them will not affect the order of magnitude of our results) we deduce, between the first and the seventeenth centuries A.D., an average growth-rate of only 0.05 percent per annum; and from the beginning of the human race to the beginning of the Christian era 0.005 percent per annum. These low growth-rates, while populations were far smaller than those now supported by the same agricultural methods in the same areas, were clearly not due to the world's inability to produce food.

In a settled peasant community, population increases at the rate of about 1/2 percent per annum, but only so long as there are no widespread epidemics, and peace and order can be preserved. "Better fifty years of Europe than a cycle of Cathay"; India and China for thousands of years have been slowly building up population, and then losing most of it again in recurring periods of war and disorder. In Europe, where total fertility may have been reduced to 5 by the custom of later marriage, population growth proved to be slow, too. The Black Death was only the first of a cycle of epidemics which checked the growth of population all over Europe. In France, which also suffered greatly from the Hundred Years' War, the population-level of the fourteenth century was not regained until the eighteenth. Egypt, and many other regions in the Middle East, had less population in the nineteenth century than they had had 2,000 years earlier. The spread of malaria, sometimes adduced as a cause, is better regarded as a consequence of social disorder; Anopheles only secures a hold when irrigation channels are neglected. Sustained growth of population, at the rate of 1 percent per annum or more, which began in the British Isles and Scandinavia with the improvement of medical knowledge in the late eighteenth century, began in China only with the establishment of peace under the Manchu Empire in the seventeenth century, in India with the establishment of the British Empire in Latin America not until the nineteenth century, and in Africa not until the present centruy.

Prospects did not look good at the time when Malthus wrote. Real wages were low and did not rise until the middle of the nineteenth centruy. Nevertheless, the British courageously refused to listen to Malthus. Had they done so, Britain would have remained a small eighteenth-century-type agrarian community; and the United States and the British Commonwealth would never have developed. No great degree of industrialization would have been possible. The economics of large-scale industry demand large markets and a first-class transportation system, only obtainable with a large and growing population.

The country which did listen to Malthus was France, where size of family began to decline early in the nineteenth century. "If population limitation were the key to economic progress," as Prof. Sauvy said at the World Population Conference, "then France should be the wealthiest country in the world by now." France, which seemed to be on the point of dominating the world in 1798, has since seen her influence steadily decline; and the recurring inflations which France has suffered are an economic consequence of the excessive burden of pensions and other overhead costs which an ageing country has to carry.

When we look at the British in the seventeenth and eighteenth centuries, at the Greeks in the sixth centruy B.C., the Dutch in the seventeenth century, and the Japanese in the nineteenth century, we must conclude that the pressure of population upon limited agricultural resources provides a

painful but ultimately beneficial stimulus, provoking unenterprising agrarian communities into greater efforts in the fields of industry, commerce, political leadership, colonization, science, and (sometimes but not always, judging from Victorian England) the arts.

But if a country fails to meet the challenge of population increase, it sinks into the condition known to economists as 'disguised unemployment' or rural overpopulation. The simpler forms of agriculture, using hand tools (as in China or Africa), can economically occupy 50 able-bodied men per sq. km. (246 acres), or 20 men per sq. km. using draught animals. A man working for a full year, using hand tools, produces at least two tons of grain-equivalent (expressing other products as grain at their local exchange values); twice that with draught animals. Minimum subsistence requirements can be estimated at 275 kilos of grain-equivalent per person per year (225 kilos of grain plus a few other woods and textile fibres). So one agricultural worker, even with hand tools, can produce subsistence for seven or eight people, that is to say, he can feed himself and his dependants at better than subsistence-level, and have some food to exchange for clothing, household goods, etc., so that an urban population can begin to grow up. (One Canadian grain grower, however, could feed 750 at subsistence-level.) Where, however, the densities of agricultural population exceed these limits, as in southern Italy, India, Egypt, etc., the marginal product of this additional labour is very low, and the consequence is that many men consume only a subsistence diet, are idle for a considerable part of their time, and have little surplus to exchange for industrial products.

Lord Boyd-Orr's statement that "a life-time of malnutrition and actual hunger is the lot of at least two-thirds of mankind" is simply an arithmetical error, based on confusing two columns in a statistical table. Malnutrition exists in the world, but it is impossible to state its extent until physiologists can be more precise about food requirements, and statisticians about agricultural output and body-weights.

Countries the population of which has outrun their agricultural resources can industrialize, and exchange manufactures for imported food, as did Britain and Japan, and as India can--if they have a large population and a good transport system. Experience in both India and the U.S.S.R. has shown that, with modern engineering knowledge, capital requirements for establishing an industrial community are less than was previously supposed. This solution, however, is not open to the smaller and more isolated islands, away from the main channels of world trade. If they become overcrowded they must seek relief in emigration, which from an island such as Porto Rico is as high as 2 percent of the population per annum.

Some fear, however, that the agricultural resources of the world as a whole may soon be exhausted. The world's total land area (excluding ice and tundra) is 123 million sq. km., from which we exclude most of the 42 1/2 million sq. km. of steppe or arid lands, discount anything up to half the area of certain cold or sub-humid lands, but could double 10 million sq. km. of tropical land capable of bearing two crops per year. We conclude that the world possesses the equivalent of 77 million sq. km. of good temperate agricultural land. We may take as our standard that of the most productive farmers in Europe, the Dutch, who feed 385 people (at Dutch standards of diet, which give them one of the best health records in the world) per sq.

km. of farm land, or 365 if we allow for the land required to produce their timber (in the most economic manner, in warm climates--pulp requirements can be obtained from sugar cane waste). Applying these standards throughout the world, as they could be with adequate skill and use of fertilizers, we find the world capable of supporting 28 billion people, or ten times its present population. This leaves us a very ample margin for land which we wish to set aside for recreation or other purposes. Even these high Dutch standards of productivity are improving at a rate of 2 percent per annum. In the very distant future, if our descendants outrun the food-producing capacity of the Earth, and of the sea, they will by that time be sufficiently skilled and wealthy to build themselves artificial satellites to live on.

Population, Evolution and Birth Control. G. Hardin. W. H. Freeman and Co., San Francisco, 1938.

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Population

By VALERIE K. OPPENHEIMER*

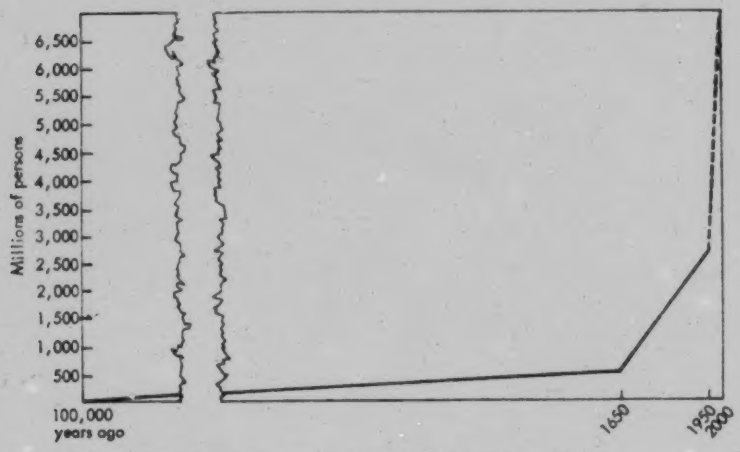
World Population Growth: Past, Present, and Future

Population Trends

In the 1930s, the Western world appeared to be in a population decline. In most industrialized countries, birth rates had been going down for over a century, abortion was tantamount to murder, and it was unthinkable that any government would distribute birth control devices. Nor did the industrialized world worry about population problems in the impoverished societies of Asia, Africa, and Latin America.

But there has been an enormous increase in world population since 1950, and overpopulation is now seen as a major issue, with growing awareness of the possibly disastrous consequences of current growth rates. Best sellers are written about population problems, and many experts make wise but often conflicting statements.

Population Growth and Projected Growth



Source: W. Peterson, Population, 2nd ed. New York, Macmillan, 1969.

Population growth (see graph) has been, on the average, extremely slow throughout most of man's life on earth, catastrophes assuring practically no net growth at all over the long haul. Moderate population growth began in the 17th century, but really rapid growth came only after 1950. Total world population in the year 1 A.D. is estimated at about 300 million people. By 2000 A.D. there may be 6.1 billion! Only about 8% of this increase came in the first 1750 years, and 30% in the next 200. We expect 62% in the 50 years following 1950.

Populations increase according to the principle of compound interest, and one way to look at growth is to determine the doubling time of a given number growing at a constant rate. Table 1 shows some growth rates which do not seem very impressive—but note the doubling times for those rates.

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* Dr. Oppenheimer is an assistant professor of sociology at the University of California, Los Angeles. This essay is a condensation of her pamphlet *Population* published by the Foreign Policy Association in 1971 as #206 in its HEADLINE SERIES (see page 69).

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Table 1
Population Doubling Times

Annual Percentage Increases in Population	Number of Years to Double
0.05	1,400
0.10	700
0.20	350
0.30	233
0.40	175
0.50	140
1.00	70
1.50	47
2.00	35
2.50	28
3.00	23

Reprinted with permission from *Population*, by Valerie K. Oppenheimer, Headline Series #206, New York, Foreign Policy Association, 1971.
Intercom Editor's note: A simple way to arrive at doubling time is to divide 70 by the annual percentage increase.

Ancient doubling times were 1,000 years or more, but with a growth rate (annual increase) of 0.5% in the 1750–1900 period, doubling time dropped to 140 years. With the increase to 0.8% in the 1900–50 period, doubling time was 88 years. At the expected rate of 1.8% in the 1950–2000 period, doubling time will be 39 years, and will mean an addition of about 2.5 billion people in that short period!

There is a startling difference between the developing and the industrialized societies, with the growth rates of the former expected to skyrocket. Latin America more than doubled its population from 1900 to 1950, and it is expected to double again by 1975. Except for the People's Republic of China, Africa and Asia are expected to double their 1950 numbers by 1985.

In Europe (except Russia), the growth rate between 1950 and 2000 is expected to be about 0.6%, compared to a world average of 1.8%. North America's rate, high in the 19th century, was, according to estimates in the 1960s, expected to decline to about 1.5% in the 1950–2000 period. However, the most recent estimates indicate that North America's annual growth rate has declined to 1.1%, a doubling time of less than 70 years.

Here we can discuss only whether the developing societies can feed themselves, even though this should not be separated from the other problems involved in population growth.

The Situation in the Mid-1960s

By the early 1960s, most experts agreed that hunger in the developing countries would turn to starvation. Between 1935 and 1960, total cereal production increased 42%, but because population growth was greater, per capita production actually declined by 2–3%. The production increase came not from improved efficiency but from new acreage put under cultivation, lands that had been forest or pasture and only marginally useful for crops. Valuable resources were often permanently destroyed for short-run food gains.

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In 1967, the World Food Supply Panel of the President's Science Advisory Committee estimated, for the 1960–65 period, that the rate of growth in food production in the developing countries had been only half the rate of population increase. These countries relied more and more on grain imports, which rose from 18 million tons in the early 1960s to 36 million by 1966. Many countries committed scarce resources to industrial growth, not agricultural productivity, seeing the North American wheat fields as the granary of the world. Productive as this agriculture was, it could not feed the burgeoning world population, and its grain reserves declined. Recent estimates indicate that from 1962 to 1985, an 80% increase in food supplies will be needed for the developing countries. Much of this must come from improved local yields, and there have been dramatic gains here.

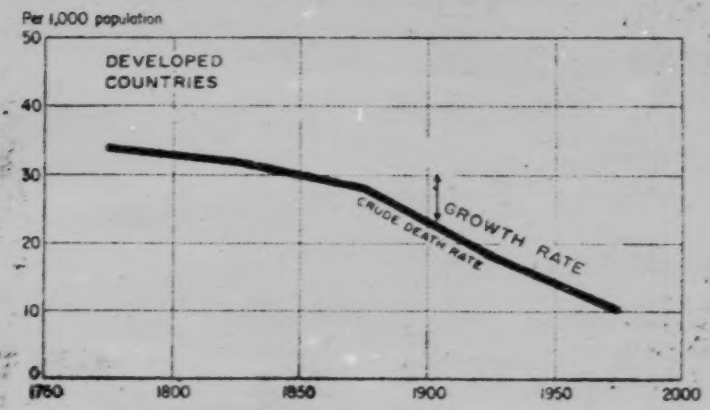
In 1944, a Rockefeller Foundation program began wheat-breeding studies in Mexico, which was then a grain importer. By 1967, Mexico was a net exporter. Wheat production tripled, and the "green revolution" had begun. In 1962, the Rockefeller and Ford Foundations jointly established the International Rice Research Institute, to achieve parallel advances in the staple food of much of Asia. Within five years "miracle" rices were developed which can double most local yields.

The high-yield wheat has been a great success in Mexico, but it is still too early to judge how these seeds, especially rice, will do elsewhere. In 1964–65, only 200 acres had been planted with the new rice; this had risen to over 40 million acres in 1970. The speed with which these new varieties have been adopted is remarkable, but this is still less than 15% of the wheat and rice land of Asia (excepting China).

Will the Green Revolution Spread?

The new seeds must be heavily fertilized. They also need controlled water and pesticides. All three require considerable capital, of which neither the government nor the farmers have an adequate supply.

ESTIMATED BIRTH AND DEATH RATES,* 1770-1970



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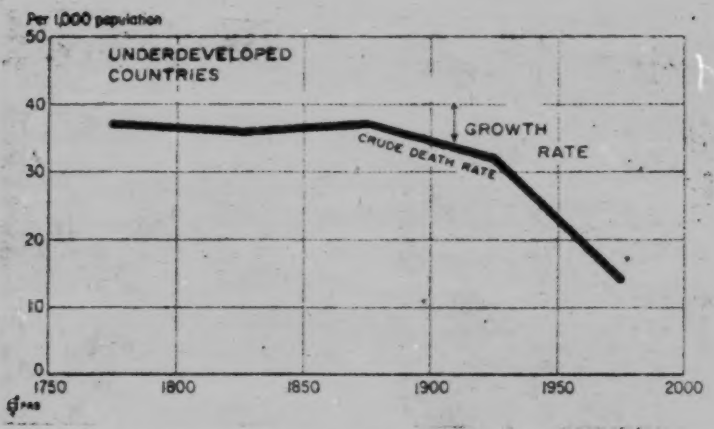

Source: "Man's Population Predicament," *Population Bulletin*, April 1971, © 1971 by Population Reference Bureau. Reprinted with permission.

Birth, Death, and Growth Rates

Why do we talk about rates rather than numbers? Think, for example, about this. In 1972 country X recorded 2,000 deaths while country Y recorded 10,000 deaths. Country Y recorded 5 times as many deaths as X. Does X then have a healthier population than Y? Now look at some additional data. Country Y has a population of 1 million, which is 10 times as large as country X's. Now how does X stand up to Y? Which country recorded the most deaths relative to the population? Which country appears to be healthiest?

How do we define birth, death, and growth rates? How can we compute them? The formulae for making the computations are very simple, as indicated in the exercises beginning on page 38.

Death rate: The death rate is the number of deaths that occur for each 1000 people in a population.

$$\text{death rate} = \frac{\text{number of deaths in a year}}{\text{population}} \times 1000$$

(Now compute the death rate for countries X and Y.)

Birth rate: The birth rate is the number of births that occur for each 1000 people in a population.

$$\text{birth rate} = \frac{\text{number of live births in a year}}{\text{population}} \times 1000$$

Ask students what other factors they found which affect population growth. They will probably have come up with immigration and emigration earlier. Ask them how they would determine net migration rate.

$$\text{Net migration rate } (n.m.r.) = \frac{\text{immigration} - \text{emigration}}{\text{population}} \times 1000$$

Finally, ask them how they would define and compute growth rate. From the preceding work they should begin to recognize the relationship to birth, death, and migration rate but may need help in understanding that growth rate is the percentage increase. Once that is understood, they can understand the formula.

$$\text{Growth rate} = \frac{\text{birth rate} - \text{death rate} + \text{net migration rate}}{10}$$

NOTE: Since $b.r. - d.r. + n.m.r.$ is usually given per thousand in population and growth rate is given as a percentage, we divide by 10 to get a figure in hundreds.

$$\text{Rate of natural increase} = \frac{\text{birth rate} - \text{death rate}}{10}$$

(Excludes the impact of net migration)

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Some Exercises for Student Practice:

1. In 1970, the population of Thomasville was 40,000. 680 children were born in 1970, 760 in 1971, and 560 in 1972. Determine the birth rate for each of the three years.

$$\frac{680}{40{,}000} \times 1000 = [\,17\,]$$

$$\frac{760}{40{,}680} \times 1000 = [18.7]$$

$$\frac{560}{41{,}440} \times 1000 = [13.5]$$

2. *a.* In Whale's Neck, population 55,000, 1,265 children were born in 1972 and 495 people died. Compute the birth and death rates and the rate of natural increase.

$$\frac{1265}{55{,}000} \times 1000 = [23\ b.r.]$$

$$\frac{495}{55{,}000} \times 1000 = [\,9\ d.r.\,]$$

$$\frac{23-9}{10} = [1.4 \text{ natural increase}]$$

b. During the same year in Whale's Neck, 110 people moved away and 55 people moved to the town. Use this additional information to determine the growth rate of the town.

$$\frac{55-110}{55{,}000} \times 1000 = [-1] \qquad g.r. = \frac{(23-9) - 1}{10} = [1.3]$$

3. Mexico has an annual birth rate of 43 and a death rate of 10. Its population is 54,300,000.

a. Determine the approximate number of children that would be born in a year.

$$\frac{43}{1000} \times 54{,}300{,}000 = [2{,}344{,}900]$$

b. Determine the increase in Mexico's total population size at the end of one year.

$$\frac{(\text{births} - \text{deaths})}{1000} \times \text{population} = [1{,}791{,}900]$$

4. Two African nations, Nigeria and Dahomey, have the same growth rate, 2.6. Nigeria's population is 56.5 million (56,500,000), while Dahomey's is 2.8 million (2,800,000). How many more people will be living in each country after a year's time?

Nigeria $56.5 \times .026 = [1.47$ million people]
Dahomey $2.8 \times .026 = [70{,}180$ people]

Using the data in the table in the centerfold, teachers may add more problems of their own devising if desired. After this experience with the manipulation of formulae, students should be able to handle the following questions.

Now that you know some of the terms like "birth rate," "death rate," etc., consider some of the following relationships:

1. Describe the relationship between birth rate and death rate so that a country could have zero population growth.
[Birth rate would equal death rate if there were no migration. The rates of birth and death could be high, low, or average as long as they canceled each other.]

INSTRUCTIONAL SEQUENCE
Packet I

Concept I

A. The object of this activity is merely to introduce the students to the "People Problem." Therefore, activity A is geared to allow students freedom to randomly delve into sources which relate to today's controversial issues.

After allowing the students to form their own groups, 3-5 in a group, provide them with as many current newspapers and magazines as can be obtained from home, school, library, etc. Devote at least one class period for research time, and for each group to list and categorize their issues. (Distribute one copy of data sheet #1 to each group.) It may be necessary to expand this activity over two class periods depending on how quickly controversial issues can be located, identified and categorized.

After collecting each group's data sheet #1 lead a discussion which compares the different issues and their relevance to population. It is suggested that the teacher place a master table on the blackboard and try to come up with a final "issues chart" which would be a composite of the groups' work.

Finally, in the discussion of the tables, the teacher may wish to use a form of Socratic dialogue which will analyze and compare the issues. Some sample questions that could be used are:

1. Why do you feel "issue X" is important?

2. How is "issue X" related to population problems?

3. Are any issues totally unrelated to population or people?

Concept II

A. This activity simply requires usage of data sheet #2 - distribute a copy to each student. Allow each student time to research each phrase. The teacher probably should work with individuals, but if desired, can have a short discussion on the meanings of the terms, the last 15 minutes of the period.

B. Have each student examine the four graphs and answer in writing, on a separate piece of paper, the questions accompaning the graphs. Some things that these questions stress are:

1. Each graph contains a factor which will influence population.

2. Question 2 is aimed at seeing that from 1960-1970 births are declining while all other variables are remaining fairly constant. Thus, our population will eventually lower.

3. Question three seeks only to have the student realize that all four of these things (B=birth, D=death, I=immigration, E=emigration) must be considered when predicting population changes and can be made equated as: $\Delta P=(B+I)-(D+E)$.

Concept II Optional Activities

C. This activity will allow the student to see the birth, death, immigration, and emigration rates of three countries for the year 1960-1970. The students can use the data to determine the population change for each of the three countries.

D. Although this is an optional activity, its purpose is to apply the processes used in previous activities in making population predictions. The process is relatively easy, but does stress the population prediction idea.

The purpose of allowing students to do this as an optional activity, is for them to see the relationship between B, D, I, and E. This activity shows the relationship in a picture, while previous activities have stressed the relationship through numbers. Supply any student who wishes to do this activity with graph paper. Remind him that he will have to use the graphs he dealt with in the previous activity.

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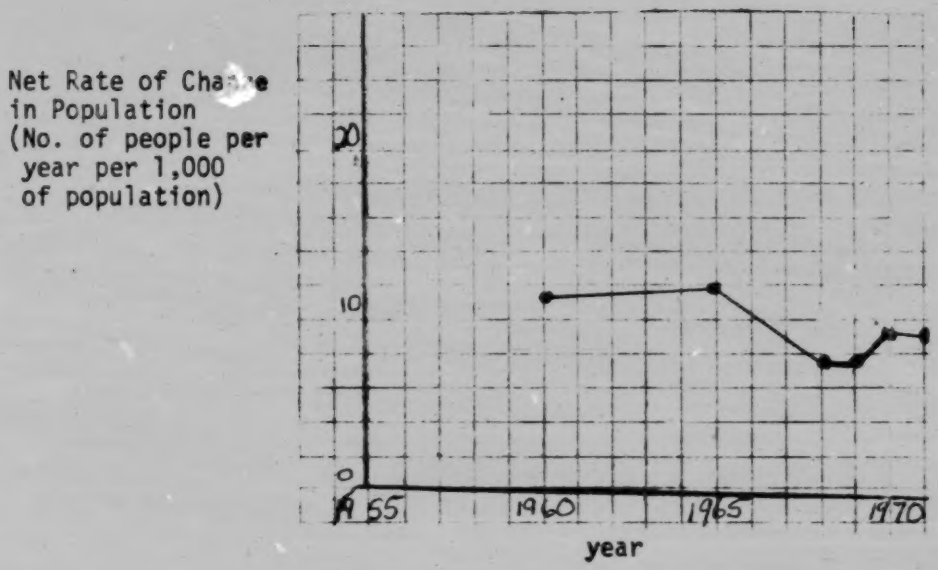
Net Rate of Change in Population for the Years 1960-1971



This graph was produced through graphical addition of graphs 1-4 used in Activity B.

E. Activity C called for the students to make application of the newly learned terms of birth rate, death rate, immigration rate, and emigration rate. The students will use the Problem Sheet and compute the net rate of change $\frac{\Delta P}{\frac{\text{Total Population}}{\text{Time}}}$

This activity should not take too long if the teacher gives an example on the board, and then circulates among the students and helps them work the problems. The answers for the specific problems in the packet are:

1. Country A

Total Births 1960-1970 - 31,883,000

Total Deaths 1960-1970 - 16,018,000

Total Immigration 1960-1970 - 1,928,000

Total Emigration 1960-1970 - 666,000

ΔP (change) = (B + I) - (D + E)

(31,883,000 + 1,928,000) - (16,018,000 + 666,000)

33,811,000 - 16,684,000

Answer: ΔP = 17,127,000

Rate of $\Delta P = \frac{\Delta P}{\frac{\text{Total 1960 pop.}}{\text{Time}}} = \frac{17,127,000}{180,292,631}$

Rate of ΔP = 180,292,631 $\overline{)17,127,000}$

Answer = +.095 or +9.5%/10 years

2. Country B

Births - 37,379,000

Deaths - 36,003,000

Immigration - 695,000

Emigration - 55,000

ΔP = 38,074,000
-36,058,000
+ 2,016,000

Rate of ΔP = 89,231,123 $\overline{)2,016,000}$ +.023 or 2.3%/10 years

3. Country C

Births - 14,745,000

Deaths - 16,033,000

Immigration - 406,000

Emigration - 484,000

ΔP = 15,151,000
-16,517,000
- 1,366,000

Rate of ΔP = 10,231,923 / -1,366,000 = -.13 or -13%/10 years

Computations for population in 1980 assuming the rate remains constant:

1. Country A

Population 1960 = 180,292,631
Δ P 60-70 = +17,127,000
Total pop. 1970 = 197,419,631
Rate of P= X +.095
Δ P 70-80 = 18,754,564

ANSWER Total pop. 1980 = 216,174,195

2. Country B

89,231,123
+2,016,000
91,247,123
X +.023
2,098,683

ANSWER Total pop. 1980 = 93,345,806

3. Country C

10,231,923
-1,366,000
8,865,923
X-.13
-1,152,569

ANSWER Total pop. 1980 = 7,713,354

Administer post test at this time.

TEACHER BIBLIOGRAPHY - PACKET I

Books

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ENVIRONMENTAL ECOLOGICAL EDUCATION PROJECT

Parkway School District
Chesterfield, Missouri

DR. WAYNE FICK, Superintendent
VERLIN M. ABBOTT, Project Director

UNIT: POPULATION
Packet I

The work presented or reported herein was performed pursuant to a Title III ESEA Grant administered by the Missouri State Department of Education.

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SETTING

With our cities and countryside suffering from dirty air, our lakes and streams poisoned by pollutants, our highways and roads being covered with automobiles, and people finding it more difficult to smoothly interact with others in their community, more attention is being focused on the "people problem" - population growth - as being a cause or at least an ever present factor in the milieu of problems facing society today.

This introductory packet will attempt to show that increases in population could and should be considered as a factor involved in today's society. It is hoped that if the concept of "population" is fully understood, you will then see its dynamics (depending on such variables as births, deaths, immigration and emigration rates) and consequently, its tremendous ramifications or impact on many facets of your everyday life. Implied in this introductory packet is the notion that variability of population can mean great differences in social, economic and political institutions.

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CONCEPTS AND BEHAVIORAL OBJECTIVES

I. Many of the issues which exist in today's society are the result of an increase in population.

1. The student will be able to separate a list of ten issues fascing society into three categories:

   a. issues directly related to population increases
   b. issues indirectly related to population increases
   c. issues not related to population increases

II. The rates of birth, death, immigration and emigration are the four variables which determine changes in population within a given geographic region.

2. The student will be able to select from a list of ten variables, those four variables which affect population change.

3. The student will be able to write four one sentence hypotheses (one hypothesis for each population variable) concerning increases or decreases in future population of the U. S.

4. Optional - Given Birth, death, immigration and emigration data of a nation for a particular year, the student will be able to compute the rate of change in population of that nation.

Take the pre test at this time

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ACTIVITIES

B. O.

Concept I Required Activities:

1

A. This first activity for the People-Population-Issues Unit is a small group activity. You will form a group with from three to five other students and attempt to identify the population related issues. The steps you will follow to achieve your goal are:

1. Working by yourself, search through recent newspapers and news magazines. Within the time alloted to you by your teacher, list the issues which are facing our society today on a piece of paper. List issues of local, state, national and international concern. Make every attempt to find articles expressing opposing views on the issue. (If opposing views do not exist, the "issue" is not truly an issue.)

   If the magazine or newspaper is disposable, clip each article and save it for future reference being certain to write at the head of each the name of the source and the author.

2. Working with the members of your group and each of their lists of issues, separate the issues into three categories:

   a. issues which are directly related to population
   b. issues which are indirectly related to population
   c. issues which are completely unrelated to increases in population

3. On Data Sheet #1 record these issues using brief, one, two, or three word phrases. See your teacher for a copy on which to write.

Your teacher will collect your group's table of categorized issues and along with the tables from the other groups, will lead a discussion which will identify several population related issues for further study.

Concept II Required Activities:

2&3

A. In Data Sheet #2, which you will obtain from your teacher, you will find ten phrases or simple concepts. Research the "meaning" of each of these and then decide which four of these might be most closely related to population changes, and tell why.

3&4

B. In this exercise you will examine four graphs, each graph containing a variable associated with population change. After examining each graph, answer the question; 1)"What effect will the trend shown on this graph have on population?" After you have answered this question for each of the four graphs, answer the questions: 2) "What is the net result on final population change if all graphs are considered at one time?" 3) "Is there some kind of mathematical relationship between these factors?" These should be answered in writing in short concise sentences on a separate sheet of paper.

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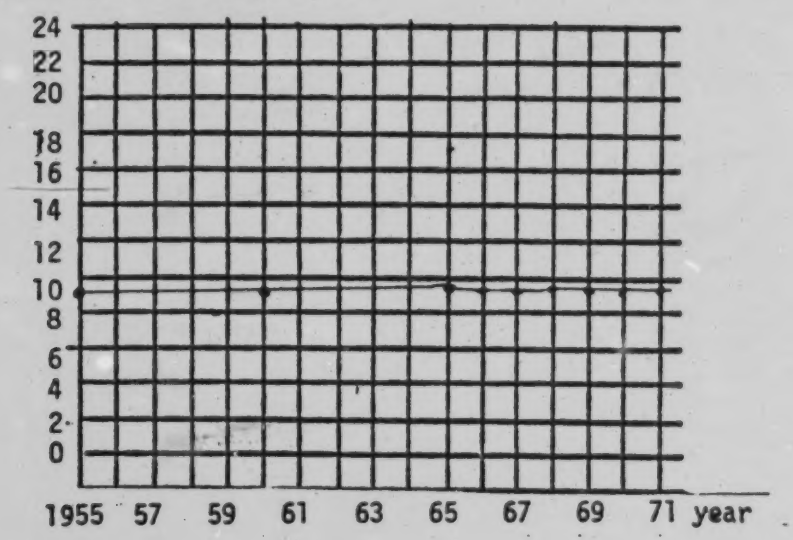
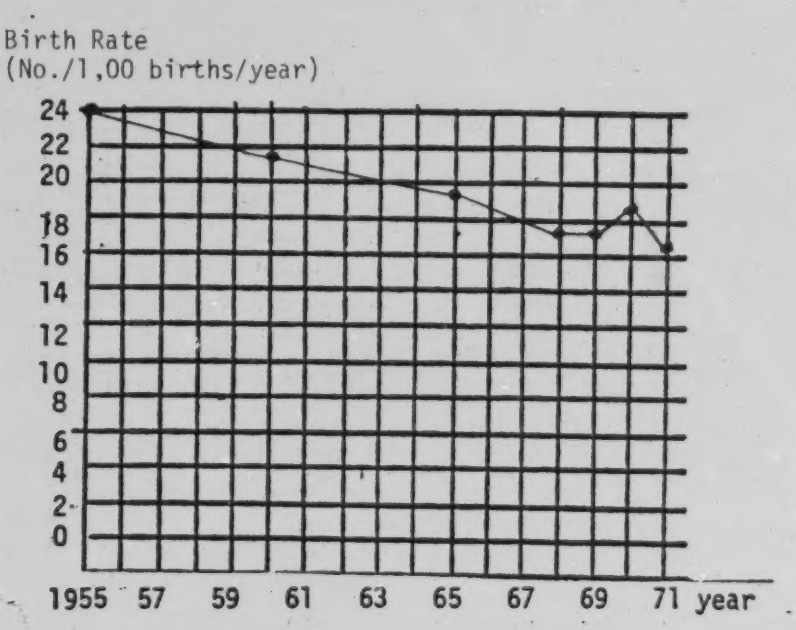
Graph of Death Rate of U. S.



Graph on Birth Rate of U. S.



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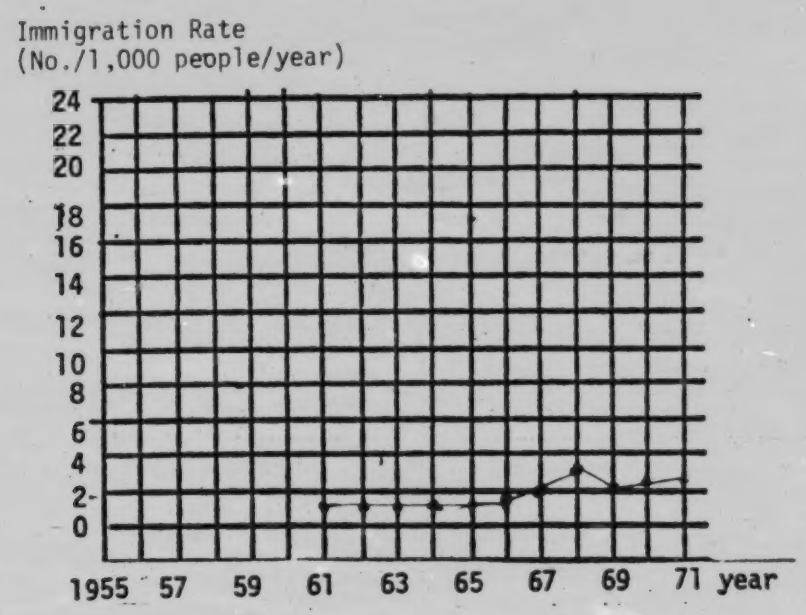
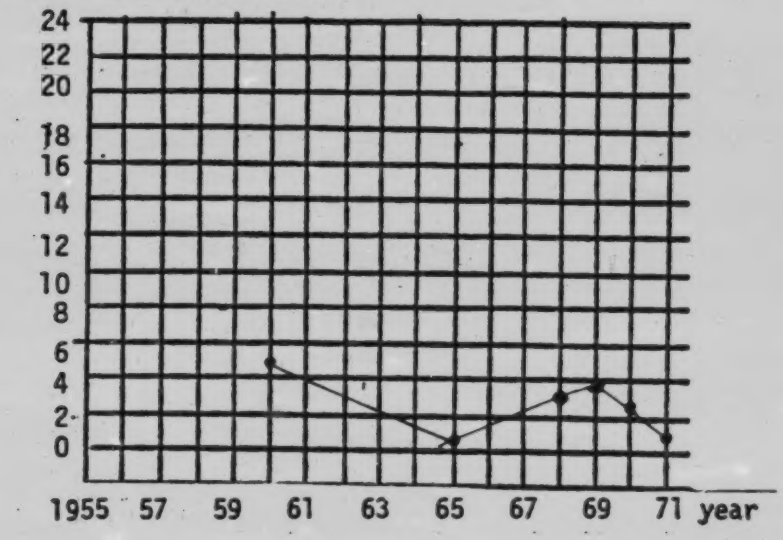
Graph on Immigration Rate of U. S.



Graph on Emigration Rate of U. S.



Concept II Optional Activities:

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4 C. In this activity you will use the birth, death, immigration and emigration figures for three countries of the world for 1960-1970. You are also given a simple formula for Net Population Change of a geographical location. Using the formula and the figures given, compute the population change for each country for the period 1960-1970.

Take post tiest at this time.

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PROBLEM SHEET

Directions: Given the total birth, death, immigration and emigration figure for three countries (1960-1970), compute the net population change for each country for the ten year period. After completing this, find the net rate of change for each country, over the 10 year period. Use the formulas

$$\Delta P = (B + I) - (D + E) \text{ and rate of } \Delta P = \frac{\Delta P}{\frac{\text{total population}}{\text{Time}}}$$

P = population
B = birth
I = immigration
D = death
E = emigration
Δ = change

(In thousands)

Country A	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969
Births	2001	2446	2632	2932	3000	3333	3614	3789	4000	4136
Deaths	1000	1223	1316	1466	1500	1666	1852	1994	2000	2001
Immigration	132	138	165	175	180	201	232	215	230	260
Emigration	64	64	66	70	62	64	66	68	70	72
Country B										
Births	3005	3304	4182	4382	3976	3866	3888	3643	3510	3623
Deaths	2508	2566	2799	3122	3444	3689	4002	4201	4454	5218
Immigration	61	60	62	68	63	61	59	80	90	91
Emigration	1	4	4	1	---	---	10	20	---	15
Country C										
Births	1261	1862	1860	1858	1850	1631	1521	1089	989	834
Deaths	1432	1488	1620	1593	1488	1621	1654	1821	1638	1678
Immigration	21	42	38	38	39	42	52	44	61	29
Emigration	31	41	41	44	45	46	50	60	61	65

Total population as of December 31, 1959 for each country: Country A - 180,292,631; Country B - 89,231,123; Country C - 10,231,923.

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4 D. Using the four graphs in required activity B as a basis, add graphically and make one graph showing total population change for the U.S. by year from 1960-1970.

4 E. Now that you have learned how to use the formula (B+I) - (D+E)= Net Population Change, try to move one step further. Using the information on Problem Sheet, take the Net Population Change for each of the three countries and find what kind of percentage increase or decrease that country experienced. You now have the rate of change in population for each of these countries. After you do this, make a prediction, in terms of numbers of what the population of each country will be in 1980 (assuming the rate of change will remain the same). Do the figures for 1980 have any other implications? If so, state them in a short paragraph.

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DATA SHEET 1

Issues Facing Society today.

1. Issues directly related to population.

2. Issues indirectly related to population.

3. Issues completely unrelated to population.

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DATA SHEET #2

Directions: Research the meaning of each of these ten concepts and then circle the four that might be considered most related in meaning to the term "population change." Tell why you chose the ones you did.

1. Birth Rate
2. Death Rate
3. Abortion
4. Medical Technology
5. Family Planning
6. Fertility Rate
7. Immigration Rate
8. Race
9. Religion
10. Emigration Rate

WHY?

_____

_____

_____

_____

_____

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STUDENT BIBLIOGRAPHY

Population Growth and the Complex Society. H. M. Hughes, editor. Allyn and Bacon Inc., Boston, 1972. pages 1-10.

Society and Population. David M. Heer. Prentice Hall, Englewood Cliffs, New Jersey, 1968. Pages 1-12 and 34-80.

URBANIZATION

II

CONCEPTS AND BEHAVIORAL OBJECTIVES - PACKET II

I. Urbanization is the change of a rural community with a population of fewer than 2,500 people per square mile to a community of more than 2,500 people per square mile.

1. The student, in a sentence of 20 words or less, will define the term urbanization.

II. As population density increases in a community, there is often a change in the way people act, think, and feel.

2. The student will state in a written sentence what correlation, if any, there is between population density and juvenile delinquency.

3. After polling twenty people, ten from an urban area and ten from a rural area, the student will draw a conclusion as to the change in the feeling of responsibility to others. The student will state his conclusion in no more than three sentences.

III. As a result of urbanization, it becomes increasingly apparent that the population of a community distributes itself into subcommunities with similar social and/or economic interests.

4. Given an outline map of an urban community, the student will be able to divide it into three social and/or economic subcommunities labeling each and listing at least five characteristics of each subcommunity.

Administer pre test at this time.

PRE-POST TEST - PACKET II

Behavioral Objective Number	
1	1. In a sentence of not more than 20 words, define the term urbanization.
2	2. In not more than one sentence, state any correlation which exists between population density and frequency of juvenile deliquency.
3	3. In no more than three sentences state a conclusion about the degree of difference in feelings of "Responsibility for Others" between urban dwellers and rural dwellers.
4	4. On the attached map of a city locate and label three social and/or economic subcommunities and list at least five characteristics of each subcommunity.

MAP (test)

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ANSWER SHEET
Pre-Post Test

1. a) That area or community which has a population density of more than 2,500 people per square mile.
   b) An area of land or community which has been industrialized, highly populated, modernized in terms of streets, housing, buildings, etc.

2. Juvenile delinquency increases in areas of urbanization or at least increases proportionately with areas of higher population density.

3. From evidence gathered, it seems to appear that there is less feeling of responsibility for others among urbanites. Even though they are closer to their fellow man (in terms of distance and density) they seem to know less about him and don't care about him as much. You may receive contrary conclusions. They are acceptable if supported with evidence.

4. See attached map. Remember, these are only examples of what the finished map should look like. The student may label the subcommunities in any manner and may use any socio/economic characteristics he wishes. As long as he comes up with a labeled, characterized map, his answers are to be accepted.

MAP (test)
ANSWER SHEET

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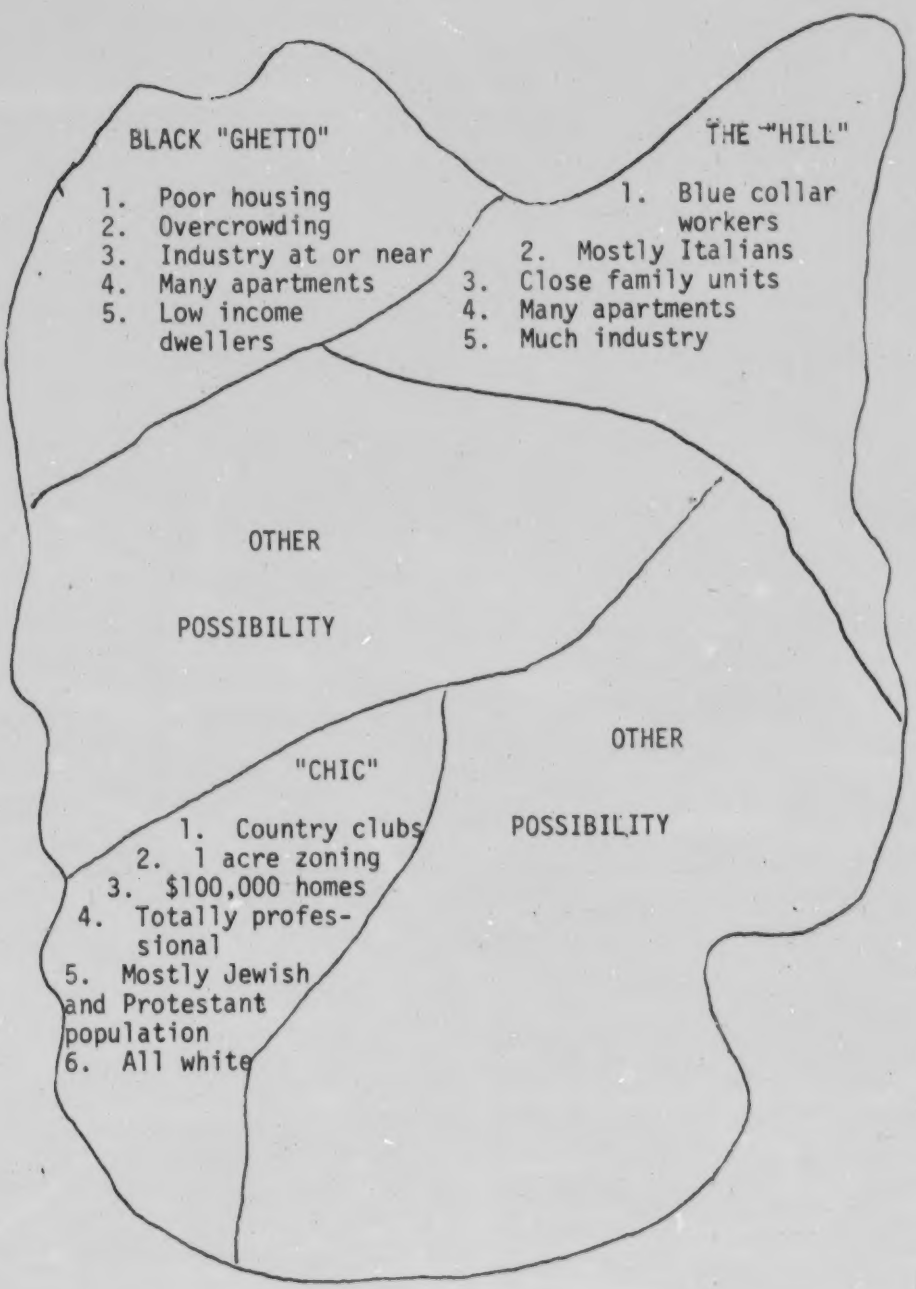

BACKGROUND INFORMATION - PACKET II

Concept I

It was the feeling of the writing team that one of the major ramifications of population growth was in the area of urbanization. Rapidly turning a country of wide open spaces into a country of factories, buildings, and subdivisions; urbanization is the partner which has accompanied population growth and movement. Therefore, in dealing with the topic of "population" it seems natural to talk about urbanization and how population growth, density and movement have created and subsequently affected it.

Although it was easy to find a demographer's definition of urbanization (2,500/sq. mile), we felt that many people have come to associate the term with such things as mass transit, high rise buildings, apartments, industrialized areas, etc. Because of this, the first concept deals with allowing the student to clarify and operationalize the term "urbanization."

Concepts II & III

Concept II stresses the idea that with more people in a community, actions and thoughts change. The thinking here was simply that rural people or people from sparsely populated areas tend to act, think, and feel differently than people who live in an urban setting. Continuing along this line, not only do they think, act, and feel differently, but people in the urban environment tend to allign with people who are like themselves. For this reason we felt a study of subcommunities was necessary. Again, we are not offering these concepts as absolutes, but rather as hypotheses to be tested throughout the packet. An example of this is the concept on subcommunities. Surely people living in small rural areas have their groups or "cliques," but this becomes much more obvious in the urban situation (ghettos, affluent suburbs, ethnic groups, etc.).

The readings which follow will give you more information on the topic of urbanization and how population has affected it.

Concept I

THE CITIES OF INDUSTRIAL AND UNDERDEVELOPED SOCIETIES

What social characteristics do we associate with urban life, and what indexes shall we use to denote whether a place is urban? Not only is each of these questions difficult to answer in itself, but there is a strong tendency to confuse the two. A careful distinction must be made between **urbanism**, the culture of cities, the way of life of city dwellers, and **urbanization**, the process by which cities are formed or by which they come to dominate a national culture.

We tend to think of all cities as essentially one, and most of the conceptual definitions are based on this premise. It is useful, however, to divide the genus into at least three species: the cities of (1) preindustrial civilizations, which were analyzed in Chapter 10, and those of (2) modern industrial and of (3) underdeveloped nations, which are the topics of this chapter.

Definitions of "Urban" and "Rural"

"About thirty definitions of urban population are in current use, but none of them is really satisfactory . . . in making international comparisons" (Macura, 1961). Some years ago, the United Nations Population Division conducted a detailed survey on the subject. Of the fifty-three countries with one or more censuses that were examined, only two (Costa Rica, 1927 and Thailand, 1947) did not divide the population according to urban or rural residence, though three others (Netherlands, Belgium, and Japan) were also partial exceptions. Some countries classified places as "urban" if they had a political status (e.g., "incorporated"); some, if they constituted divisions similar to townships with a certain minimum size of population, which ranged from 2,000 for Austria to 20,000 for the Netherlands; some, if they performed an administrative function (similar to that of a county seat), for example, Brazil, Colombia, Peru, Egypt, and Turkey. Among countries that defined "urban" by an aggregation of population, the minimum size ranged from 250 in Denmark to 25,000 in Mexico (United Nations, 1950). The population most commonly used to define an urban place, 2,000 persons or over, was implicitly proposed as an international standard. To adopt it as a measure would change the percentage urban in Iceland (1940) from 71.7 to 46.7, in Netherlands (1947) from 54.6 to 72.5. Yet in spite of the range in definitions, there was a correlation of 0.84 between the percentage "urban" as each country designated this sector and the percentage living in cities of 100,000 or more (United Nations, 1953).

More generally, "urban" and "rural" are defined by one or more of four criteria, which can be identified as economic, cultural, political, and demographic.

1. Economic criteria are used especially to distinguish the agriculture of the countryside from the service functions of a market town. Thus, Hawley has posited an abstraction that he terms a **community area**:

> The community is comprised of two generalized unit parts, the center and the adjoining outlying area. In the one are performed the processing and service functions, and in the other are carried on the raw-material-producing functions. The two develop together, each presupposing the other (Hawley, 1950, p. 245).

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But we certainly cannot mark the boundaries of a community area today by so simple an index as the source of consumer goods. The food eaten in any American city can include not only milk from the immediate locality but also (if we restrict the list to domestic products) California vegetables, Florida fruit, Wisconsin cheese, Idaho potatoes, Kansas corn and pork, and so on through all the specialized commodities of America's rationalized agriculture. On the other hand, the urban influences impinging on rural regions, while they may be transmitted through the nearest town (in the form, say, of the local newspaper or television station), are as likely as not to have originated in New York or Washington or Hollywood. The boundaries of the modern community area are "blurred, if not indeterminate," for "each index yields a different description of a community's margins" (*ibid.*, p. 249). Indeed, as we have noted, even in a preindustrial society a market town that related only to the surrounding countryside was less likely to develop full urban characteristics than either an administrative center or, especially, a depot of long-distance trade. (Sometimes "urban" and "nonagricultural" are taken to be correlative; a country is described as urban if, e.g., no more than half of its occupied males are engaged in agriculture. Yet the two factors are not necessarily complementary in this sense: the United States census classification of "rural-nonfarm" could be matched by one of manufacturing or mining nonurban; *cf.* Macura, 1961, but also Schwirian and Prehn, 1962.)

2. Cultural criteria supposedly distinguish the essential characteristics of urban life. When so defined, the city is "a state of mind, a body of customs and traditions, and of the organized attitudes and sentiments that inhere in these customs and are transmitted with this tradition" (Park, 1925).

> The larger, the more densely populated, and the more heterogeneous a community, the more accentuated the characteristics associated with urbanism will be. . . . The bonds of kinship, of neighborliness, and the sentiments arising out of living together for generations under a common folk tradition are likely to be absent or, at best, relatively weak. . . . Competition and formal control mechanisms furnish the substitutes for the bonds of solidarity that are relied upon to hold a folk society together. . . . The city is characterized by secondary rather than primary contacts. The contacts of the city may indeed be face to face, but they are nevertheless impersonal, superficial, transitory, and segmental. . . . Whereas, therefore, the individual gains, on the one hand, a certain degree of emancipation or freedom from the personal and emotional controls of intimate groups, he loses, on the other hand, the spontaneous self-expression, the morale, and the sense of participation that comes with living in an integrated society (Wirth, 1938).

Sometimes the contrast with a nonurban way of life is expressed as a contrast between two polar types. In the usual formulation, rural-urban is more or less identified with Gemeinschaft-Gesellschaft, and thus with nonindustrial-industrial. Redfield, for example, designated "urban society" as the contrary of "folk society," which he defined as follows:

> Such a society is small, isolated, nonliterate, and homogeneous, with a strong sense of group solidarity. The ways of living are conventionalized into that coherent system which we call "a culture." Behavior is traditional, spontaneous, uncritical, and personal; there is no legislation or habit of experiment and reflection for intellectual ends. Kinship, its relationships and institutions, are the type categories of experience and the familiar group is the unit of action. The sacred prevails over the secular; the economy is one of status rather than of the market (Redfield, 1947).

3. Political criteria distinguish an urban place by its administrative function. The centers of local or provincial control in the Chinese or Roman empires, for instance, had an urban status even though many were hardly more than hamlets. In the United States until 1874, to take a modern example, the only definition of *urban* was an incorporated place, that is, an aggregate that a state legislature had recognized as a "town."

4. Demographic criteria distinguish an urban place by the number of persons living in a town, however this is defined, or in a population conglomeration irrespective of the administrative boundaries. In the United States, as in Europe and Oceania, "underbounded" cities are common—that is, administrative urban units that constitute only part of a continuous bloc of nonagricultural population. In some other parts of the world, such as the Philippines, one finds "overbounded" cities, single administrative units made up of both an urban nucleus and a rural periphery (Gibbs, 1961, p. 17). Whether urban units are defined as actual population agglomerations or as governmental units containing a certain minimum number of persons obviously affects the denoted size of cities considerably.

Variation in the designation of "urban" is also usual in any one country's history. The gradual development of the U.S. Census Bureau's definitions, for example, illustrates the problem in assigning statistical indexes to rapidly changing social entities (Truesdell, 1949). Until 1874, as we have noted, incorporated towns were considered urban and everything else rural. In that year a *Statistical Atlas* was published showing the population density of each county in the country, and in the analysis of the data towns of 8,000 inhabitants or more were defined as urban and the rest of the population as rural. In 1880 the division that had been established almost by accident in this atlas was projected back to 1790, and eventually the series was continued until 1920. In the same census of 1880, however, a new definition was established: urban = an aggregate of 4,000 or more, rural = the balance. Even with this simple dichotomy, the division between rural and urban was complicated by the existence, particularly in New England, of large townships with low population density, and in almost all censuses some special provision has had to be made to adjust these to the national definition. In 1900 a three-way division was made between "urban" (population of 4,000 or more), "semi-urban" (incorporated places of less than 4,000), and "rural" (unincorporated places). This census, thus, introduced two novelities—a departure from the rural-urban dichotomy and the simultaneous use of two indexes.

In Willcox's supplementary analysis of the 1900 census a population of 2,500 or more was taken as the basic definition of "urban," and this has remained standard to this day. "Cities" were defined as aggregates of 25,000 or more, and this was the first step toward the later separation of metropolitan units. In a special 1920 monograph both the urban and the rural sectors were divided into farm and nonfarm, and this differentiation has been maintained for the rural one in subsequent censuses (except that in 1930 the criterion by which the "farm" population was defined was changed from occupation to residence). In 1930 the same classification was maintained with the following addition: aggregates of 10,000 or more persons with a density of 1,000 or more per square mile were defined as urban even if not so by other criteria. In 1940 the urban category was subdivided by breaking off "metropolitan districts," defined as cities of 50,000 or more together with contiguous administrative units having a population density of 150 or more per square mile.

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A number of new concepts and procedures were introduced in the 1950 census. The size-of-place classification was extended to segregate two classes of villages, those of 1,000 to 2,500 inhabitants (whether incorporated or not), and those of fewer than 1,000. A new definition of "urban" was adopted, by which this population comprises all persons living in (1) incorporated places of 2,500 or more (except in New England and other states where "towns" are subdivisions of counties); (2) the urban fringe,[1] whether incorporated or not, around cities of 50,000 or more; and (3) unincorporated places of 2,500 or more outside an urban fringe. The remaining population is classified as "rural."

Two new metropolitan units were also established in 1950. An **Urbanized Area** is made up of at least one city (or a pair of contiguous twin cities) of 50,000 or more, plus the surrounding densely settled, closely spaced, urban fringe. **A Standard Metropolitan Statistical Area** (or SMSA), as it is now termed, is defined as one or more contiguous nonagricultural counties containing at least one city of 50,000 or more (or, again, a pair of contiguous twin cities of at least this joint size), and having a generally metropolitan character based on the counties' social and economic integration with the central city.[2]

Whether Urbanized Area or SMSA is the preferable unit depends on the use to which it is put. The first measures primarily the residence pattern in a city and its immediately adjoining area, the second the broader economic and social integration of whole counties. By the definition of both metropolitan units, a city's effective population is no longer counted as the number of persons who happen to live within its corporate limits. What is commonly termed the "greater" city is a much more realistic measure of the actual social aggregate, and these new census definitions approximate it in different ways. In both, formal administrative borders are ignored also in other respects: Urbanized Areas include either incorporated or unincorporated places; both they and SMSAs extend over state lines (*cf.* Berry, 1967).

Only minor revisions were made in the 1960 classification. The name and precise definition of the SMSA were changed slightly. A new megalopolitan unit was set, the **Standard Consolidated Area**, and two such areas were delimited. The New York-Northeastern New Jersey SCA constituted the New York, Newark, Jersey City, and Paterson-Clifton-Passaic SMSAs, plus Middlesex and Somerset Counties in New Jersey—with a total population of 14.8 million (*cf.* Taeuber and Taeuber, 1964). The Chicago-Northwestern Indiana SCA was made up of the Chicago and Gary-Hammond-East Chicago SMSAs, with a total population of 6.8 million.

The development of the rural-urban differentiation is recapitulated in Table 13-1. At the beginning of the nineteenth century, residents of the *countryside* were *farmers* living in *unincorporated* places; and any one of these three elements could be taken as a sufficiently accurate measure of the composite status. Today, the "rural" isolation of that period and its concomitant social characteristics have all but disappeared; in some senses the entire population is "urban." In its continuing attempts to measure this transformation, the Census Bureau has experimented with a number of indexes, of which the most important were political status (e.g., incorporated or unincorporated), occupation (e.g., rural-farm), population density (e.g., the classification added in 1930), population size (with 2,500 becoming the dividing point between urban and rural), and social and economic integration (e.g., the number of telephone calls between the central city and the metropolitan ring, one of the criteria by which counties are included in an SMSA). For any except the roughest indication of differences, then, the simple rural-urban dichotomy is now inadequate. It is usual to break down each into at least two parts—urban into "metropolitan" and "other urban," and rural into "farm" and "nonfarm."[3]

Population. W. Peterson. Macmillan Co., Canada, 1969.

Concept II

ASPHALT AND BOREDOM

AND SO they have been streaming into the city for decades, in every country on earth. But not every kind of person is drawn to the city. The first to follow the call are the more lively, interested people, the open-minded ones, and those who respond to stimulation. And these people constantly supply the city with two qualities that are significant in the shaping of the city's character: vitality and nervousness. But even if they were not already equipped with them, the climate of the city would bring out these qualities in them.

City climate—first of all, this has to be taken quite literally. The larger the city, the more apparent becomes the phenomenon that the city has its own weather, which is quite different from that of the surrounding countryside. Characteristics of city weather are greater warmth, less sunshine, and polluted air.

The yearly mean temperature in the centre of a city is usually two, quite often four, and in rare instances even six degrees above that of its environs. On many days, especially in giant cities, there may be differences of up to eleven degrees between the city and the surrounding country. The yearly mean for Madrid is only 6.1 degrees warmer than that of London, and Rome's is only 11.3 degrees warmer than Berlin's, but these apparently negligible differences prove to be very significant. Since climatic influences cause various body functions to mature several years earlier in southern Europe than they do in the north, it is not surprising that the difference of temperature within the same country should cause the same body functions to mature earlier in the large cities than they do in the rural areas.

Driving into a metropolitan city on a clear summer night, one can feel the dew-fresh coolness suddenly changing into the warmth of the stable. The stone buildings have absorbed the heat of the day and now are heating the streets, just as the brick that the farmer's wife has heated in the oven later warms her cold feet in bed. In winter the tall houses act even more as a heating system for the whole city. A good deal of the warmth that is generated in tens of thousands of stoves and furnaces pours out into the open from the chimneys and seeps out through walls and windows into the streets.

Factory smoke and the fumes of automobile traffic create a haze that on a calm day can be observed over practically every large city. This layer absorbs up to 40 per cent of the sun's rays in industrial cities; it also contributes to the city's stable-warmth at night by providing a kind of ceiling that keeps the heat from rising into the upper atmosphere—star-lit nights are always cooler than cloudy ones, because the stars are clearly visible over a metropolitan city only when a brisk wind has blown away the haze.

When the layers of fumes mix with fog, as often happens in London, the result can be injurious to health and, for people with respiratory ailments, even fatal. About once a week a layer of ozone settles over the low-lying area of Los Angeles and impedes the dispersion of the exhaust fumes of millions of cars and the smoke of thousands of furnaces and stoves; and so the city is suffused with a noxious vapour—called smog—which irritates the eyes and the mucous membranes, causes many traffic accidents, endangers air travel, and damages the harvest. In Tokyo smog has been doing heavy damage to the firs in the parks of the imperial palace. Since the industrial revolution man has been producing so much dirt and poisonous air that even some of the trees cannot breathe any more.

One should assume, therefore, that city people are unhealthy people. In the early days of industrialization, they were indeed not very healthy, and neither, in our day, are the people who are living in some of the sordid sections of metropolitan cities in southern countries. In 1828 Johann Peter Eckermann, a literary associate of Goethe, recalled having seen "among the French infantry a battalion consisting of Parisians exclusively. These men were all so thin and small that one could not help wondering what could be accomplished with them in a war".

If today a Prussian king should once again be looking for the "big fellows", nowhere else would he have a better chance of finding them than in a metropolitan city. In Central Europe and in many other highly civilized areas, each military draft proves that in general city dwellers are taller, stronger and healthier than the sons of peasants. They even live longer in spite of the increase of heart disease among those who will not miss a chance for unwholesome living.

So it would seem that polluted air, lack of sunshine, and even the heavy strain on the nerves, are not of as much consequence as the bitter exigencies and age-old customs that rule the farmer's life. Heavy physical labour during adolescence, food that is not well balanced, a certain diffidence about hygiene, and a strange coyness about oxygen intake make the farmer less healthy than the city dweller. In some Tyrolean mountain villages there are sanatoria that take care of tuberculosis patients from the city, while greater numbers of villagers suffer from this disease—because in most farmhouses the windows are just not being opened.

As for the health of the city dwellers, while a great deal will have to be done to improve it in the coloured world, and everywhere more must be done to control the fumes of factories and automobiles and to eliminate noise and offensive odours than has been done so far, there is at present no reason to fear an impending disaster.

The picture is quite different, however, when it comes to nervous condition and mental health, which are not influenced so much by the weather in the city as by the non-meteorological climate of stimulation and challenge. From early childhood superabundant impressions, stimuli, and dangers make their impact upon the city dweller, who, compared with the peasant or the small-town shopkeeper, becomes a nervous, unstable, harassed, often pitiful being. Constantly driven by the clock that ticks the time away and by the speeding motor car, pursued by an evil-smelling, onrushing traffic, forever at the highest pitch of attention, the city dweller dashes to his place of work; and even in transit he is assailed by loud-coloured posters and constantly blinking neon lights, which pound into him that he must, by all means, buy this or look at that if he wants to keep abreast of the times.

The always startling, ceaseless succession of impressions, the torrent of stimuli, and in the evening, radio music and television movies—all these reduce the city dweller to the level of an organism always on the lookout for newer, different, still stronger impressions —ready for the sanatorium, or in the end completely dulled and unable to be roused by anything.

The consequence is weariness and disgust. It is a not uncommon attitude among the city dwellers, and the youths find it downright chic not to be amazed, not to be impressed by anything. The German sociologist Georg Simmel found this weariness, this "fancying oneself superior to it all", the most typical character trait of people living in large cities. He calls this weariness an attempt of the nerves to let man withdraw from the incessant demands on one's reactions by not reacting any more at all. "If the reactions caused by the constant contact with countless people in the big city had to be as sincere as they can be in the small town where one knows almost everyone and with whom one has a clear-cut relationship, one would go to pieces inwardly."

In ancient Rome already the bored city dweller had to be regaled with ever more cruel and bloody circus performances, in order to rouse his interest. The history of literature abounds with poets and their creations in whom saturation turned into disgust with life, to a complete emptiness, and finally to suicide.

"Paris changes, my melancholia persists," lamented Baudelaire. He talked about his demon, who led him "weakened, tired and broken by fate, through boredom and deserted barren lands." Ennui, disgust—Balzac, Marcel Proust, André Gide, and Paul Valéry have painted it, too; and so, in Russia, have Lermontov, Goncharov, and Dostoyevsky; in England, Wilde and Joyce; and in a similar vein Hamsun and Malaparte, Thomas Mann and Gottfried Benn. It is the disease of the metropolis.

"My misfortune is caused . . . by the utter uneventfulness of life," wrote Georg Heym in 1910, the poet who drowned in the Wannsee near Berlin when he was only twenty-four years old. "Why does one not for once undertake something really extraordinary, even if somebody would just cut the string which holds the balloons that the man is selling at the corner. I would love to see him curse. Why does not anybody murder the Kaiser or the Tsar?" In Dostoyevsky's novel, the St. Petersburg student Raskolnikov *does* commit a murder, and he names as one of his reasons his desire "to grab this whole nonsense by the tail, to become free of it with one big sweep—and the devil may care!"

That boredom can lead to crime is proved a thousandfold by the increasingly frequent appearance of the weaklings and the well-to-do mother's pets in the criminal statistics of large Occidental cities. One important cause of juvenile delinquency is undeniably the widespread need to get away from the well-regulated monotony and empty slogans of city life and to look for some adventure or other. One does not steal out of necessity, one steals to get a thrill, or to raise one's standard of living, or to have money for the gambling halls, those hopeless waiting rooms of boredom, which in turn must generate another eruption. Environment very rarely offers the child ideals that go beyond the striving for material goods. The parents, too, are out to make money, often both of them, so that they do not have time for their children, which is part of the problem of the weaklings and the immature.

Most of them, however, do not even commit actual crimes; they are satisfied with protesting against the immensely boring world of the grown-ups in the manner they wear their hair, by their clothes, and their manners. They call themselves existentialists, beatniks, or Teddy Boys, they wear beards reminiscent of the painters of an earlier period; they drive around in old jalopies painted in gaudy colours; they meet, among other places, in London's Chelsea district, for pyjama parties, and they gleefully torture the older generation's ears with the full blast of noisy radio music. This rowdy kind of music, as well as jazz, seems to them an exquisite way of giving expression to their protest.

On another level, one indicates by wearing identical dungarees, leather jackets, turtleneck sweaters, and neckerchiefs that one belongs to a group, a gang, where one feels at home and secure in a solidarity of protest. These gangs often move along the periphery of criminality. In New York they have become the greatest threat to public safety; on the slightest provocation they fight each other in bloody battles, and they commit crimes of violence just on the spur of the moment. No one but an uninformed foreigner would ever think of strolling at night in Central Park, right in the heart of New York. Satiety and boredom have widened the scope of the underworld and even established ties with the so-called better circles.

The city has always been a stamping ground of crime, sin, and debauchery. The Jews identified not only the foreign cities of Babylon and Nineveh, but also their very own Sodom and Gomorrah, as wicked. Sybaris, the Greek city in Italy, became a synonym for voluptuousness. It is said of Hannibal (though probably somewhat inaccurately) that by taking winter quarters for his soldiers in the rich and corrupt Italian city of Capua he had depleted the strength of his army. And of ancient Rome it was said that people flocked there in order to speculate, to debauch, and even to train for a life of crime, and that Rome was the best hiding place for a fugitive from the law. About the end of the nineteenth century the young and already gigantic city of Chicago became the breeding place for gangsterism; London is the proverbial site for murder in all the better cloak-and-dagger stories; the word Paris has almost become a synonym for obscenity.

The metropolis breeds crime, because it attracts people who have been ruined and hope to remake their fortunes quickly and without having to work; because factories in times of crises produce unemployment instead of goods; because the city displays before the thief temptations galore; because the criminal sees a chance to disappear in the nameless crowd. And finally, crime thrives upon the general decline of morality in the metropolitan cities, a phenomenon that is usually spoken of as "social disorganization". Having escaped the close ties with the soil and the environment, having become estranged from nature as much as from tradition, the city dweller no longer looks upon childless marriages, divorces, deterioration of family life, and prostitution as unwholesome.

Prostitution is one of the most typical manifestations of metropolitan life, and in many countries it is sanctioned by law only in the larger cities. According to German law the government is authorized to ban prostitution completely in communities of less than 50,000 population, while in larger cities only certain designated areas are barred. Apparently, legislatures, in their planning, assume that immorality grows with the size of the city.

For still another reason prostitution must be considered a product of the city: It is the most perverted outgrowth of the city dwellers' basic philosophy that everything can be bought. Money is a city invention; banking and world trade cannot be isolated from the city. There the essential values of things are irrelevant, and only the value of money, in itself and in relation to things, is of substantive importance. Georg Simmel, in his *Philosophie des Geldes*, wrote:

> The metropolitan city has from time immemorial been the centre of monetary exchange, because the variety and the concentration of commerce and trade affix to the means of exchange an importance which they could not have acquired through the sparse barter carried on in the rural areas . . . The ideal of natural science, namely, to turn the whole world into a mathematical formula . . . finds a parallel in the mathematical precision that practical life has gained from the financial world; it is the preoccupation with monetary matters which fills the day of so many people with weighing, reckoning, numerical definitions, and the reduction of qualitative values to quantitative ones.

Money, like writing, seems to have been invented by the priests of the old Babylonian cities, probably because they needed a way of measuring the value of sacrifices and offerings to the temple. In Nebuchadnezzar's Babylon, the first great money centre in history, several priests were also bankers, and all bankers were priests.

Metal coins were first used in 700 B.C. in Miletus and other Greek cities of Asia Minor. Yet, even in our time, outside the city, commodities are used as payment—in many parts of Africa it is salt; among the natives all around the Pacific Ocean, cowrie shells are used. Money became more and more abstract in the realm of urban civilization; it became watered down into paper bills, bonds and stocks, and checks. Producer and buyer do not know each other any more. Money itself has become merchandise which is traded at the stock exchanges. Even from this aspect, metropolitan life becomes foreign, anonymous and over-organized.

The rootlessness of metropolitan people has often been mentioned as the common cause of capitalism, of the break with tradition, of moral decline, and of criminality. That may well be correct. For the children especially, it is a deprivation and a danger that, as city dwellers, they do not come face to face with growing things. One can only say that it is unreasonable to expect someone living on the sixth floor to grow roots. To see something desirable in this state of having roots is a concept of the rural world. The nomad will never be able to understand why not only the trees but people too ought to have roots; and the city people do not quite understand it either. A constantly growing affinity between the nomad who in history preceded the peasant, and urban man who follows the peasant, becomes obvious, particularly since apartment houses began to spread.

In the German cities of the Middle Ages only the man who owned a piece of land within the city limits could enjoy the privileges of citizenship. The soil had a hold not only on the peasant, but also on the urbanite. In ancient Carthage and Rome, and in the metropolitan cities of our time, however, the tenant predominates—the person who does not possess anything that ties him to a certain place, so that therefore nothing prevents him from living here today and somewhere else tomorrow. The invention of the apartment house is, in importance to the history of civilization, comparable to the invention of the city in the past.

The growing kinship of the city dweller to the nomad becomes apparent in various ways. Metropolitan people move frequently, be it from one house to another, from one city to another, or even to a different country. In the peasant's vocabulary, the term "moving day" does not exist. He dies in the house where he was born. In fact, the peasant cannot leave his farm even temporarily. Travel as a mass enjoyment was invented in the very same country that gave birth to the modern metropolis: in England. Formerly, when people went on a vacation, they usually had a destination, a place where they stayed for several weeks. With the invention of the gasoline motor, travelling itself has become like a nomad's trek: every few days another place. Millions of people spend the major part of their Sunday in a constantly moving car. The ancient urge to wander, which man followed for 590,000 years, was only repressed during ten thousand years of stability in rural living. It was not eradicated.

In the United States there are many seasonal workers who are on the move from one place of work to the next in their cars and trailers—not unlike the last surviving gipsies who in most countries are despised chiefly because they refuse to settle down. The descendant of the pre-agricultural nomad and his cousin of the urban era often meet on the highways.

More and more American travelling parties are moving around the world in their trailers. When they stop—mostly in camping places—they will, particularly in Europe, meet a great number of people in tents, who in their own fashion stage the comedy called "Back to Nature". The tent, the age-old housing for the nomads, in their case comes from city factories, and so do the folding chairs and tables, the air mattresses, the cars, portable radios, and canned food, which for these nomads represent the necessities when they, in a fenced-in camp-site, fling themselves into the arms of nature.

The city-born movement "Back to Nature" is, incidentally, at least 2,200 years old. Its first literary memorials are the pastoral poems with which the Greek writer Theocritus early in the third century B.C. delighted the courtly society in Syracuse and Alexandria. Urbanization had by then already progressed so far, that one looked upon the apparent idyll of the shepherd's life as a lost paradise. The peasant *lives* with nature; to think of nature as "beautiful" is the idea of city people.

Two hundred years later Horace dreamed of emigration from the sinful city of Rome to the "blessed islands". Juvenal recommends that one move into the country: "With love, turn to the hoe and the care of the garden." But it goes without saying that they both remained in Rome. Voltaire has his hero Candide, after having been bruised and beaten in Lisbon and elsewhere, finally come to rest on a little farm in Turkey, and he ends the novel with these words: "Now let us cultivate our garden!" Goethe's Faust finally reaches his goal by reclaiming new land. Knut Hamsun wrote a book called *The Growth of the Soil.* As a matter of fact, Hamsun was a landowner, and Voltaire actually moved from Paris to a castle in the country where he spent the last years of his life. But they are the exceptions. "Back to Nature" is an urban movement which in general does not lead to much more than an occasional trip to the country. One speaks enthusiastically about the country, but by no means because one might seriously consider moving out of the city. No, indeed; one raves about the country simply because getting excited and enthusiastic about something is one of the city dwellers' favourite parlour games.

The number of people vacationing in the high mountains is steadily growing; the number of Alpine farmers is diminishing. In all parts of the Alps, but especially in the French and Austrian sections, villages are dying out; there are farms where one does not see children, farmers who cannot find a wife. The mountain-villagers move into the valley and the cities. Their children in turn will become enthusiastic about the mountains.

Even mountain climbing is a movement that originated in the city; and it was only fairly recently that it took hold of people who actually live in the Alps. One of the causes for the development of Alpinism may very well be the need to flee the world of man, to escape from the half-hearted, middle-of-the-road world, the city, from which all that is wild, chaotic, overwhelming has been barred, and to be for one vacation (though not longer) with Nature where she is wildest and most threatening.

No wonder that the English invented mountain climbing, just as they invented the industrial city, travelling, and sport in the modern sense—that is, no longer a cult as it was in Greece, but a city-inspired way of exercising, often combined with an urban glee for numbers and records. As we see, not only moral decay and criminality, but sport and Alpinism too are consequences of man's being uprooted.

It is perhaps actually premature to talk about "rootlessness" in a regretful sense. After all, the city itself and the advancement of culture began with the fact that a group of people left the country and found that they could live without roots. To the city, and by the same token to rootlessness, we owe most of what constitutes the peculiar charm of being human: art, philosophy, science, and liberty. To be free in all respects originally meant nothing more than to have no roots, not to be tied down, to be an eagle and not a tree. All freedom goes back to the basic fact of being free from the country.

It is the city dweller's great good fortune and at the same time the risk he runs, to have the asphalt underfoot, which is guaranteed not to let any roots come through; it is his great opportunity as well as the temptation he must face. At a time when "Blood and Soil" were written in capital letters, Goebbels thought he had coined a term of abuse when he spoke of "asphalt literature". But most literature is asphalt literature, and even the "peasants" among the writers, like Tolstoy and Hamsun, lived for a long time in cities or developed their art through books which came from the city.

Man has built the city as a tremendously enlarged image of himself. The city is as good and as bad as he is. But it creates new possibilities for him; it raises the good to the sublime and degrades the bad to the vulgar. Who strives for the sublime may well have to put up with the vulgar too. Who wants freedom must also accept the risks involved in freedom. Who wants culture must acknowledge the city, the large city. It calls for constant vigilance to prevent the low and the ordinary from gaining the upper hand, as it did in the late periods of Babylon and Rome, in the early days of Manchester, or today in Calcutta. We have to be alert, and we have to start shaping the city of tomorrow now.

Babylon is Everywhere. W. Schneider, McGraw Hill Book, Inc. New York, NY, 1963.

Concept II

THE CITY DWELLERS

If it is true (and it is) that three-fourths of the American population now lives in an urban area, the city dweller is obviously taking over the land. Never has there been so much truth in the old song "How you gonna keep 'em down on the farm after they've seen Paree?" In fact, it doesn't even have to be gay Paree or sophisticated New York to make the farm boy leave home. Any reasonably urban region will do, and these regions are multiplying—reasonably or not—faster than ever before.

Many writers have analyzed this "explosion" lately and fretted about its effect on our cities and on the people who are crammed into them. They have coined such phrases as "urban sprawl" to describe the process whereby a city simply ingests the countryside around it, and "urban blight" to describe the resulting landscape. Earlier this year California was warned of the horrible spread of "slurbs"—"our sloppy, sleazy, slovenly, slipshod semi-cities"—and of the danger that "slurban growth" could devour half of the state's best soil in another two decades. Another survey, conducted by the Twentieth Century Fund, even discovered a whole new city called Megalopolis, which extends five-hundred miles from Boston to Washington and contains thirty-eight million people.

Within these five-hundred miles there are, naturally, patches of verdure. An alert eye can detect them between the motels, filling stations and shopping centers. But the urban patches are now so numerous that they tend to merge. Like amoebas, they push out in huge blobs until one day they unite and leave no trace of their former outline. On the whole, therefore, the thirty-eight million Megalopolitans live in urban conditions—in congested apartments or housing units—and this is fast becoming the pattern all over the United States.

There is, of course, no typical city dweller. They vary as widely as cities themselves, and no two cities are alike. New York is vertical and Los Angeles is horizontal. Boston is old and staid, Houston is young and restless. San Francisco sits on a hill and looks to the sea, Des Moines sits in a plain surrounded by corn as high as an elephant's eye. Salt Lake City is religious, Miami worships the sun and other golden idols.

And even within one city the species has infinite mutations. Every New Yorker regards himself as unlike every other New Yorker in his use of the city, and he is. For a city is all things to all men and a different thing to each. It insists on no standard of behavior, accepting the conformist and the crackpot with equal ease. The hermit can use it for a cave, the backslapper can slap backs from morning to night.

Nevertheless all city dwellers have certain experiences and emotions in common. This book does not pretend to cover them thoroughly or to be valid for every city—it was written by a New Yorker, and so draws its detail from New York. But its point of view is urban in a larger sense, and so are its subjects. If it talks of sports, the sport is nothing as regulated as tennis; it is jaywalking or taxi chasing. If it examines city rituals, these are such rituals as the business lunch or the courtship of a girl who shares her apartment with many roommates. Its hazards are not the nosy neighbor but the falling cornice, its anxieties those of a man who watches his city being demolished and rebuilt around him from week to week.

These are experiences and emotions that occupy more Americans every year. Perhaps this book will touch on enough of them to strike a responsive note in all who live or have lived in a city and loved it, if not wisely, at least well.

It is not only in the subway that manners and transportation are joined. There is also the matter of the taxicab, especially since the advent of taxis so small that they are almost impossible to enter. This link was vividly illustrated in a picture which *Vogue* ran not long ago, and which must have horrified all who saw it.

The picture showed a woman, regally attired for the evening, standing on a New York sidewalk in the rain. She was holding an umbrella and also holding open the door of a small cab while her escort squirmed into the back seat. This was not bad manners, *Vogue* said in its caption. On the contrary, "it is good manners; more importantly, it is good sense, which, after all, is the making—or remaking—of manners." Thus the magazine attempted to solve one of the newest problems of city life: that a woman, hobbled by a tight skirt and by still tighter casings beneath it, can hardly get into one of the little cabs and slide across the back seat. Hence the man should go first.

This decree will help the American woman in certain situations. It won't help her, however, to get out when the ride is over, or at least to get out gracefully. Nor will it help her if she is pregnant—an expectant mother might as well try to pass through the eye of a needle as ride in one of these hostile little cars. Worst of all, it won't help those who are no longer young. To see the old and the infirm trying to get in and out of these small taxis is to be carried back to crueler eras. Centuries of progress in easing man's load are canceled out. Yet the old and the infirm are the very people who must take cabs, being unable to walk far or to climb into that other torture chamber, the bus.

Obviously it is not manners that need remaking, but cabs. They have reached the pinnacle of discomfort, short of having no seats at all, and they should not have the right to change our manners just because they are badly designed.

People should change manners because they want to, not because they are forced to. No woman really wants to stand in the rain holding a cab door for her escort, and no escort really wants to have a door held for him. When this happens, chivalry is dead and life has lost one of its graces.

Ironically, the taxi has long been fashion's symbol. In any city it is the luxurious way of getting around, a synonym for gaiety and flair. Today it has lost so many of these qualities that a man and woman, out for a formal evening, often prefer to walk the ten blocks from a restaurant to a theater, or even to take a bus. Pity the man, too, who has not heard of *Vogue's* new etiquette. Dressed to the nines for a night at the opera, he will call for his lady and hold the cab door open for her, savoring the ancient ritual. She, elegant in mink and diamonds, dainty in evening slipper, trailing clouds of perfume that might evaporate in the outdoor air, will nevertheless refuse to enter. Instead she will wait for her squire to do the proper thing. Finally, unable to contain her pique, she will say: "Where are your manners? Get in!"

That this change should be caused by a machine is not surprising. Technology is the enemy of manners, often because it creates labor-saving devices where labor ought not to be saved. The telephone, for instance, has largely replaced the handwritten letter in city life. So rare is the personal note nowadays that when one arrives it is a pleasure out of all proportion to what it contains. A vestigial custom is momentarily reprieved. Still, one can't get too angry at the telephone —except when it is abused by salesmen hawking dance lessons, insurance policies and cut-rate magazine subscriptions— because it is good technology.

What makes the small taxi so insulting is that it is bad technology. It epitomizes all the assaults which the city makes on the patience of its residents and which they can do nothing about. There is something grotesque, for example, in the fact that most modern cabs have a sign saying DO NOT SLAM THE DOOR. Surely this is not to spare the sensibilities of the driver, a man whose use of the horn reveals him to be, if anything, in favor of noise. It can only mean that the cab is so shoddily built that any simple jolt will dash it to pieces.

Seeing a sign urging him not to slam the door, what man can resist slamming the door? It is the only hope of ridding the city of these rolling heaps of scrap. New York is undoubtedly full of secret door slammers, who would feel richly rewarded if they could cause a cheap taxi to separate into its component parts. The joy would be especially sweet if it were one of those cabs whose crankshaft forms a high ridge in the floor, dividing it into two pools which, in rainy weather, lap at the feet of the back-seat riders.

Quite a few of the new cabs also have a sign begging their passengers to be careful of their hands when they shut the door. This is because certain doors have a habit of trapping two or three fingers as they close—another fact that doesn't speak highly for their design. Of course, there wouldn't be any problem if taxi doors still had handles. Some of you older people may remember the handle. It was an object that extended from the cab door and was shaped in such a way that a hand could grab it. (This, in fact, is how it got its name.) The handle was used for centuries until Detroit replaced it. The "handles" on today's cabs are like the manual puzzles in an aptitude test—interlocking nests of chrome that do not yield their secret easily. No two look alike, so it does no good to remember how they work, for the chances of hailing the same taxi twice are small, similar though the monologues from the front seat may seem.

The remaking of manners is not often done as consciously as in *Vogue's* edict. Manners change gradually in response to new technical or social conditions. One such technical newcomer is the self-service elevator, which is fast abolishing the elevator man from city apartment life. The relationship with the elevator man is not ideal, bounded as it is mainly by talk of the weather, but it is far better than a relationship with a machine. A small act of manners is required of both parties, and the day is pleasanter for beginning and ending with a personal touch. Besides, it is good to be reminded that it is a beautiful morning. In our haste we often take this fact for granted or fail to notice it at all.

By contrast, the self-service elevator offers no greeting, no meteorological news and no extra help. It doesn't carry packages, it doesn't prevent the door from sliding shut just as a passenger is about to enter, and it gives no protection, as every girl is all too aware. Some apartment buildings hope to combat this fear by installing TV monitors in the elevator ceiling so that the doorman, watching his television set in the lobby, will be able to see who is assaulting whom.

The plan has several obvious drawbacks, aside from the fact that Big Brother is an unwelcome guest in any society. One is that the doorman can't watch TV all day; if he does, he won't be able to open doors. The other is that he can't do anything about whatever mayhem he observes. At best he can get a downward view of the villain and give the victim tea and sympathy when she emerges.

More social than technical is the change in manners of urban dress. Standards have become far looser, especially for the male. Where he used to wear black tie for the opera or theater, or at least a dark suit and white shirt, he now feels free to wear a suit and shirt and tie of any color, or no tie at all. Hot weather disrobes him still further. He rarely wears a hat in summer, and often he also leaves his coat at home, satisfied to face the city in that classic raiment of modern America, the open-necked, short-sleeved shirt. Even his socks are falling as the garter fast becomes obsolete. With its dis-

appearance the bare leg is increasingly on display—a sight as undesirable in the male as it is desirable in the female.

Here again it could be said (though *Vogue* probably won't say it) that the remaking of manners is merely good sense: that where manners and comfort clash, comfort should always win. Certainly the trend in all phases of American life is toward greater ease. Even the new Merriam-Webster dictionary is designed to be cozy and entertaining. It quotes Ethel Merman, Dinah Shore, Ted Williams and other such authorities to illustrate the use of different words, and, as if to emphasize its claim that the language is more informal than ever, accepts "ain't" as a word "used orally in most parts of the U.S. by many cultivated speakers." In the previous edition (1934), "ain't" was called "dialectal" and "illiterate." Thus within one generation the illiterate have become cultivated, simply by waiting for our verbal manners to decline.

King Casual now rules the land and is entrenched with surprising power in the cities, where form used to be important. The shape of the week itself has changed, bringing forward by twenty-four hours the phrase "Have a good weekend," especially in summer. City dwellers parting after Thursday lunch say it automatically, each sure that the other is going to start right out for the country that afternoon. On the whole they are right, and getting righter every year.

The method of entertaining at home is also settling into a new pattern. Economic conditions have deflected the servant class into other fields of employment, creating what is generically known as "the servant problem" (except to servants), and this has bred a curious set of manners. The family that has managed to retain a family retainer in the kitchen, mainly by plying her with heavy doses of cash and flattery, will go to any length to keep her from deserting, and will adjust its schedule to hers without a whimper.

At one time a dinner guest who wanted a second predinner drink could count on finishing it at leisure. Now it is far more important to humor the cook. If she announces at seven that dinner is ready, even if the dinner was planned for seven-thirty, the host and hostess will bound from their chairs and stride into the dining room. "Bring your drink to the table," the hostess says, uttering a cry that rings out nightly across modern America. "I promised Milda that she could leave at nine to meet her sister at the movies."

The guest, startled out of his relaxed mood, stiffens to obedience and brings his drink to the table, where he sips it alternately with the soup—a ritual that neither the drink maker nor the soup maker had in mind. For the rest of the meal he never forgets that he is eating against a deadline, nor does the hostess, for with the last swallow of dessert she is up again, leading her flock back to the living room "so that Milda can clear the table." Needless to say, a lady would never risk inviting someone to dinner on an impromptu basis, even if she met a long-lost friend on the street at 6 P.M. Such pleasures are dying out. Anybody can repair a friendship, but a lost cook is lost forever.

Into this vacuum a new figure has moved and taken hold: the cook or maid who hires out by the evening. Formerly a woman who was summoned merely to supplement the regulars, she is now the pole around whom the social axis revolves. A hostess planning a dinner party will not think first of the guests that she would like to invite, or of the date that would best suit herself and them. As one hostess has put it, "I have to take care of the back door before I take care of the front door," and so it is Hilda or Vilma or Wilva who picks the night, even if it is four weeks off. It often is. Sometimes a hostess will engage more than one of these helpers, or "free lances," as *Vogue* so charmingly calls them. In fact, *Vogue* takes them into account in its articles advising ladies on how to plan a formal dinner. Do this, it says, if you only have a cook and one free lance; do that, it says, if you have a cook, a maid and two free lances.

The next step is to have caterers handle the whole evening —a system fast gaining currency in city life. Unfortunately, the hostess spends so much of the day telling these total strangers where everything is, and getting the good plates and glasses down so that the caterers won't break them, that she is exhausted by the time the guests arrive. Nor does the dinner itself soothe her, for the caterers give no indication of ever having passed a plate in their entire corporate life. Consequently the evening loses some of its old-fashioned warmth and takes on a slight touch of the wedding reception.

Fundamentally, of course, a city's manners are made and remade by its "Society." It is this group that governs what is "done" and what is "not done." Society so constantly remakes itself, however, that its own shape is never firm. Every city has its "old guard" that is Society's base, but in some cities the guard is older and more influential than in others. Fixed settlements like Boston and Charleston tend to be ruled by their dynastic families, while in cities that are still young and growing, particularly in the Southwest and West, the codes are not too rigid for a newcomer to bend.

New York is unusual because it has two upper classes. One is the aristocracy of position, or High Society; the other is the aristocracy of talent. Both classes own the city, for quite different reasons, and both have an army of applicants pounding on their doors. One is almost invisible; the other is as visible as it can possibly contrive to be.

This doesn't mean that New York's "old guard" cannot be recognized. Its members have definite costumes and distinguishing marks. The men wear vests and diagonal-striped ties and carry furled umbrellas. The ladies wear conservative but impeccably tailored suits, and their badge is the pearl choker. The sons wear narrow-brimmed hats that sit on their heads as if fearful of breaking them, and the daughters wear circle pins, cablestitch knee stockings, camel's-hair coats and a gold barrette to control their hair. The daughters are also inordinately big, for reasons that science has never explored.

The old guard have their traditional spas, such as the Century Club and the Colony Club, the palm court at the Plaza Hotel, and a few restaurants like Giovanni's where at lunch everybody is dressed alike and knows everybody else. Certain events also bring them out in force. One such event is the Friday-afternoon concert of the Philharmonic and the bus ride which, by a quirk of the transit system, follows it. For though this is a set that normally travels by taxi or "town car," many ladies choose to go home by a bus which crosses Fifty-seventh Street, stops at Carnegie Hall, then turns up Fifth Avenue and finally meanders through the East Seventies, thereby bisecting the region in which most of them live. To hear the conversations on this journey is like being in a school bus again. The talk is parochial and chatty, the atmosphere gay—these ladies could as well be in America's smallest town as in its biggest city. But in general Society moves in a world withdrawn, its machinery so subtly tuned that no outsider can hear the whirring. It holds hundreds of dinners that nobody ever reads about; it runs the proper dances, charities and schools, and it molds the manners of the city far more than is commonly believed.

It is the aristocracy of talent, however, that gives the city its drive and its passion. Unorthodox in lineage, eccentric in dress, those who rise to the top in the arts also own New York. Playwrights and producers, writers and editors, composers and musicians, actors and dancers, painters and architects, museum curators and other creative folk—all who make their own name need not inherit one. It is a name that will open the best watering holes of their own set, such as "21" and Sardi's, and most of Society's doors as well, so that in posh restaurants the two aristocracies meet on equal ground to eye each other's furs and jewels. The fact that a New Yorker can go in half a lifetime from the Lower East Side to the Upper East Side is the secret of the city's vitality. On a map this trip appears to cover only seventy or eighty blocks; actually it is so much longer that no cartographer can project it.

If the new aristocracy has to any extent changed the manners established by the old, it is in the realm of privacy. High Society is one of privacy's last bastions. It is founded, after all, on the idea of excluding the masses from the pleasures of the fortunate few. It also believes that exposure is in bad taste. "Not to attract attention to oneself," says Emily Post, "is one of the fundamental rules of good breeding. Nothing stamps the vulgarian more plainly than advertising his possessions by loud word of mouth."

By contrast, the aristocrats of talent are seldom out of view—and don't want to be. Fame is the reward for their steep climb to the summit, and publicity is the engine that keeps them there. Each of them has a press agent to get his name in the paper as often as possible. Hence any loyal reader of the columns always knows what his heroes are doing, not only in their artistic field but in the wholly irrelevant area of their personal life, however untidy it may be.

The news is often imparted through an odd journalistic device which has been created for this very purpose and which takes roughly this form: "Actor Joey Mahooley, ex-mate of dancer Luba Labula consoling himself at the Club La Twiste last night with bosomy ingenue Dawn Star, tells the following joke. . . ." The joke that follows is not very good, and nobody is more surprised to discover it in the paper than Joey Mahooley. It was confected by his press agent, or by Miss Star's, or by the Club La Twiste's, and simply appended to the client's name. The fact that the item is intimate in detail, rather than professional, doesn't matter in the slightest. The celebrity has "made the columns," and that's the main thing.

By itself this group could not greatly weaken the standards of privacy. Celebrities have always displayed their inner lives to the outer world, and nobody gives it a second thought. The faction that has really eroded privacy is one that dwells in a shadow land between the two aristocracies and keeps trying to cross the borders of both. These are the social climbers, and their impact on the city's manners has been enormous.

Fifteen years ago they had little chance to pierce the old guard's guard. But the postwar boom in charity balls, dinners and theater parties (as opposed to private balls, dinners and theater parties) has opened many portals. These charities are still headed mainly by ladies of the old society. But they will add to their committee a lady of the new society who contributes, say, $75,000 or $100,000 to the cause. Then the two women appear together in a picture on the society page of the *New York Times,* and the climbing lady takes a long step up the mountain of respectability.

Thereafter she begins to head charity committees herself and she strenuously promotes her name. She hires a personal press agent at $100 to $150 a week. She patronizes a currently fashionable dress designer, hairdresser, shoe salon, milliner and jeweler, all of whom also have press agents—or, frequently, the same press agent—to announce the visits of such patronesses. She dines at restaurants that are similarly staffed, such as the Colony and the Côte Basque, confident that their press agents will plant a "mention" of her new dress. After all, why pay $750 for a new dress if nobody but her husband is going to comment on it? She even invites the press to her private parties. So widely are these parties chronicled in the next day's papers that they seem to have been attended solely by reporters and publicists.

Meanwhile she does not neglect to cultivate her private image as well. For it is not enough to be known as a diligent hostess and benefactor—that can be achieved through vast expenditures of time and money. But it is useless if she cannot cajole the old guard into accepting her as a person. This last mile, the tricky passage between Cafe Society and High Society, is the hardest, and to help her negotiate it she engages a social adviser.

These paid Pygmalions try their best to sandpaper the rough edges off the statues that they are bringing to life. As one of them, Marianne Strong, recently explained to a TV interviewer, she tells her clients what clothes to wear, what beauty parlor to attend, where to enter a daughter in school, what sort of charities to embrace, and other such crucial facts. "I might send her to an elocution teacher," Miss Strong said, if her customer's accent needs refining, "and I would probably advise her to join a chic church."

The word "church" has been preceded by many adjectives in its long history, but "chic" has not been one of them. In modern New York, however, it seems quite natural. For if ladies now give parties for reporters instead of for their friends, if they wear clothes chosen by their social adviser instead of by themselves, if they support charities for publicity instead of for charity, why should they go to church for interior motives when ulterior ones are so much more fruitful? As Miss Strong points out, there is no swifter way of crashing High Society than to ride in on its religious machinery—an apparatus top-heavy with committees, guilds, nursery schools and other social cells.

Well into this century it was a canon of manners that a lady's name should appear in the newspaper only three times: on her engagement, her marriage and her death. By present standards this is a starvation diet, and only a small and shrinking circle of ladies will limit themselves so harshly. For in this dawning age of informality—of the cultivated "ain't" and the vanished garter, of "Bring your drinks to the table" and the chic church, of the invitation by telephone and the greeting by first name of comparative strangers—the old manners count for little and familiarity counts for all. Today there's no business like everybody's business, and a stickler like Emily Post, whose book bristles with such stern negatives as "it is unthinkable" and "it is unallowable," seems like the priestess of some long-forgotten cult.

A far truer voice of the times is Amy Vanderbilt, who says in her *Complete Book of Etiquette* that it is acceptable for a lady to endorse a commercial product "for a fee or in some cases for the reciprocal publicity." But Miss Vanderbilt has her standards, too. In the wording of the endorsement, she observes, "the bounds of good taste should never be overstepped. You could permit yourself to be called 'wealthy' or 'socially prominent,' but not 'the heiress to $20,000,000.' " Of such delicate distinctions the new manners are made.

The City Dwellers. W. K. Zinser, Harper and Row, New York NY, 1960.

PREJUDICE AND DIVERSITY

This reasoning sometimes leads to error—people observed to be outwardly different may not in fact behave differently, or such differences in behavior as exist may be irrelevant to the interests of the community. Viewed one way, these errors are exceptions to rule-of-thumb guides or empirical generalizations; viewed another way, they are manifestations of prejudice. And in fact one of the unhappiest complexities of the logic of neighborhood is that it can so often lead one wrongly to impute to another person some behavioral problem on the basis of the latter's membership in a racial or economic group. Even worse, under cover of acting in the interests of the neighborhood, some people may give vent to the most unjustified and neurotic prejudices.

However much we may regret such expressions of prejudice, it does little good to imagine that the occasion for their expression can be wished away. We may even pass laws (as I think we should) making it illegal to use certain outward characteristics (like race) as grounds for excluding people from a neighborhood. But the core problem will remain—owing to the importance of community to most people, and given the process whereby new arrivals are inducted into and constrained by the sanctions of the neighborhood, the suspicion of heterogeneity will remain and will only be overcome when a person proves by his actions that his distinctive characteristic is not a sign of any disposition to violate the community's norms.

Such a view seems to be at odds with the notion that the big city is the center of cosmopolitanism—by which is meant, among other things, diversity. And so it is. A small fraction of the population (in my judgment, a *very* small fraction) may want diversity so much that it will seek out the most cosmopolitan sections of the cities as places to live. Some of these people are intellectuals, others are young, unmarried persons with a taste for excitement before assuming the responsibilities of a family, and still others are "misfits" who have dropped out of society for a variety of reasons. Since one element of this group—the intellectuals—writes the books which define the "urban problem," we are likely to be confused by their preferences and assume that the problem is in part to maintain the heterogeneity and cosmopolitanism of the central city—to attract and hold a neat balance among middle-class families, young culture-lovers, lower-income Negroes, "colorful" Italians, and big businessmen. *To assume this is to mistake the preferences of the few for the needs of the many.* And even the few probably exaggerate just how much diversity they wish. Manhattan intellectuals are often as worried about crime in the streets as their cousins in Queens. The desired diversity is "safe" diversity—a harmless variety of specialty stores, esoteric bookshops, "ethnic" restaurants, and highbrow cultural enterprises.

[I suspect that the tolerance for social diversity, especially "safe diversity," increases with education and decreases with age. This tolerance, however, does not extend to "unsafe diversity"—street crime, for example.]

ON "MIDDLE-CLASS VALUES"

At this point I had better take up explicitly the dark thoughts forming in the minds of some readers that this analysis is little more than an elaborate justification for prejudice, philistinism, conformity, and (worst of all) "middle-class values." The number of satirical books on suburbs seem to suggest that the creation of a sense of community is at best little more than enforcing the lowest common denominator of social behavior by means of *kaffee klatsches* and the exchange of garden tools; at worst, it is the end of privacy and individuality and the beginning of discrimination in its uglier forms.

I have tried to deal with the prejudice argument above, though no doubt inadequately. Prejudice exists; so does the desire for community; both often overlap. There is no "solution" to the problem, though stigmatizing certain kinds of prejudgments (such as those based on race) is helpful. Since (in my opinion) social class is the primary basis (with age and religion not far behind) on which community-maintaining judgments are made, and since social class (again, in my opinion) is a much better predictor of behavior than race, I foresee the time when racial distinctions will be much less salient (though never absent) in handling community problems. Indeed, much of what passes for "race prejudice" today may be little more than class prejudice with race used as a rough indicator of approximate social class.

With respect to the charge of defending "middle-class values," let me stress that the analysis of "neighborhood" offered here makes no assumptions about the substantive values enforced by the communal process. On the contrary, the emphasis is on the process itself; in principle, it could be used to enforce any set of values. To be sure, we most often observe it enforcing the injunctions against noisy children and lawns infested with crabgrass, but I suppose it could also be used to enforce injunctions against turning children into "sissies" and being enslaved by lawn-maintenance chores. In fact, if

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> we turn our attention to the city and end our preoccupation with suburbia, we will find many kinds of neighborhoods with a great variety of substantive values being enforced. Jane Jacobs described how and to what ends informal community controls operate in working-class Italian sections of New York and elsewhere. Middle-class Negro neighborhoods tend also to develop a distinctive code. And Bohemian or "hippie" sections (despite their loud disclaimers of any interest in either restraint or constraint) establish and sustain a characteristic ethos.

The above by James Q. Wilson, entitled "Urban Unease."[1]

[1] The Quality of Urban Life, edited by J. J. Schmandt, W. Bloomberg, Jr. Sage Publications, Beverly Hills, California, 1969.

INSTRUCTIONAL SEQUENCE - PACKET II

B. O. Concept I

1 A. This first activity has the simple purpose of getting the student acquainted with the idea of "urbanization." Though the teacher could easily use the numerical definition, it is felt that many people connect the idea of "urbanization" with big sprawling buildings, many streets, cosmopolitan atmosphere, etc. For this reason, we have included both definitions and hope the teacher will use both of them together whenever possible.

1 B. This is an excellent film documentary on the growth of a metropolis and its effect on lives of the people. Discuss historical pattern of growth, proper land use, transportation, core city problems, urban renewal and population density. It is suggested that the entire class view this film, early in the packet. This will get the student to think about some of the problems (and possible solutions) created by urbanization. The film can be obtained from the county library.

1 C. This activity involves the use of Data Sheet #1. A careful study of the two pictures or maps of Missouri counties shows some interesting trends.

1. There is definitely a population movement in Missouri. Many counties experienced significant changes in population density (10-25% and over), either increased or decreased.

2. Also, a further examination reveals that those counties experiencing major increases were the counties which contained a large urban community within them (Jackson County, Kansas City, St. Louis County, St. Louis, Green County, Springfield, Cape Girardeau County, Cape Girardeau, etc.). Those traditionally rural areas, by definition are losing population.

3. It also appears that if the various counties are studied and discussed, certain patterns of movements can be noticed. An example of this is the heavy population "horseshoe" which seems to be forming around urban areas. Other patterns might be noticed by students who wish to pursue this further.

It is suggested that students work in small groups on this activity so they can communicate whatever impressions they have on Missouri to others. A final class discussion might conclude this activity and allow all students to see the answers to the questions posed to them in the activity. Remember, the purpose of this activity is to show the student the trend of more people leading to more urbanization. The consequent effects of more urbanization are covered later in the packet.

Concept I Optional Activities:

1 D. This activity allows the student who was highly interested in the last activity to move one step further. Again, the purpose of the activity is to show the exodus of people from the traditionally rural areas or states, to "urban" areas, but this time we look at it on a larger scale. It is recommended that you instruct the student to use the Almanac (see bibliography) to obtain his data.

Some obvious examples of movement from rural to urban are:

1. Nevada (Las Vegas, Reno, etc.) shows a 5.3% increase in population from 1960-1970.

2. Florida (Miami, Tallahassee, Jacksonville) shows a 3.1% increase from 1960-1970.

3. Arizona (Tuscon, Phoenix, etc.) shows a 3.0% increase from 1960-1970.

4. North Dakota (no real large urban areas) shows a .2% decrease.

5. South Dakota (no real large urban areas) shows a .2% decrease.

6. Maine (predominantly rural) shows a .1% increase.

Concet II Required:

2&3 A. This project should be assigned either at the beginning of this packet, or perhaps even at the beginning of the course, depending on how long the teacher wishes the multi-media project to be. In any case, the teacher should stress in the assignment of this project that the stucents should point out differences in lifestyles of rural and urban areas in their presentations. This might involve speech habits, dress, forms of entertainment or recreation, types of jobs, living conditions, etc.

A multi-media presentation can involve the use of slides, photographs, records, paintings, etc. Give the student room to be creative and imaginative. You might even wish to have your school's audio-visual consultant talk with the students about how to make these types of presentations.

2&3 B. The students should submit their paragraphs on the differences between the two communities.

1. Hamlin Garland's article describes rural life and the pleasures that come with open spaces, working outdoors, being near to nature, etc.

2. Louise Merriwether describes the urban life as crowded, contained, being subject to getting involved in trouble, due to racial hatreds, high buildings, etc.

2&3 C. This simulation game, while not particularly stressing rural or suburban life, does give a tremendous insight into urban life, especially in the inner city. It should be noted that most of the students in Parkway know what semi-rural or suburban life is like, but have very little idea how urban life differs from theirs. For this reason, this game is highly recommended.

If, for some reason, you don't have the game, it can be order through the Social Studies Service Catalogue. (See the Social Studies Department Chairman for information.)

2&3 D. This film should be previewed and used by the teacher when felt it will fit most appropriately. It is probably best to allow groups of seven or eight students at a time to view this film which shows the loss of innocence that is symbolized by urbanization.

This film in glorious black and white, without narration, is the most arresting and unusual of the recent Dutch short films. In a long flashback one is show a little boy with a white rabbit. A big girl snatches it from him and hides in a half-built block of offices. There she is attachked and finally killed by a drunken youth. When the police have finally dpearted, the boy again plays with his rabbit. Another girl appears, takes it from him, and the perpetous mobile begins again. This 16mm sound film is 24 minutes long and can be obtained from the Netherlands Embassy Information service, Netherlands museum, Holland, Michigan 49423. Borrower pays return postage.

3 E. Tnis activity requires the students to design a poll that will measure the degree of "responsibility to others" that exists between people with an urban background and people with a rural background.

Remember, as you help the student design his poll, that he should be structuring it to contain questions that measure the degree of responsibility to others. He may choose to design his poll any way he wishes, but he should be told to use questions that deal with feelings for others. This is to determine if people who come from a rural background indeed "love their neighbor" more than urbanites or vice versa.

One technique that could be recommended to the student is to use 10 statements ranging from indifference (Example: "I don't want to get involved in other people's problems") to extreme concern for others (Example: "Each man is a part of the other man"). After each statement have a range of 1-5 that covers the amount of agreement with that statement. This is just one possible technique. It is important for the student to devise his poll with a minimum of help from the teacher.

3 F. See instructions for Activity E. When analyzing the results submitted by the students, be sure they can statistically support their conclusion.

2 G. This activity has as its purpose an attempt to find a correlation between population density and juvenile delinquency, i.e., more people living together breeds more crime.

Have the student look at the statistics and then do some simple division. For example:

St. Louis County has approximately one juvenile referral for every 70 people.

Jackson County has approximately one juvenile referral for every 65 people.

Harrison County has approximately one referral per 200 people.

Howell County has one referral for every 300 people.

Then point out which counties have high population density (St. Louis, Jackson, etc.) and which have low density (Harrison, Howell, etc.).

The student, in his conclusions, should have statements demonstrating the fact that increases in density are followed by increases in juvenile crime.

Concept III

4 A. This activity should be recommended to all students, especially the slower students. Use your discretion as to whether or not each student understands what a subcommunity is and is ready to proceed with other activities.

4 B. Students should be divided into small discussion groups of four or five. Be sure to instruct the students that within the groups, they are to discuss what subcommunities are and to give each other examples of subcommunities and characteristics of subcommunities.

The teacher should go from group to group, sitting in on the discussions. Try to encourage everyone in a group to participate.

4 C. This is another activity to acquaint the student with the concept of subcommunities. After the students complete the worksheet on subcommunities, and you have evaluated them, they can be used as the basis for a class discussion, individual work, or for their small group discussions on subcommunities.

The answers are:

1. All poor blacks

3. All rich, affluent, white protestants of upper social standing and refinement

6. Entirely Italians and Italian Americans of lower and middle class.

7. Predominantly very wealthy whites (mostly Jewish) professionals

9. An area of the country that is filled with illiterate, poor, unemployed whites

4 D. The student is given an outline map of five large metropolitan areas. He is to contruct a subcommunity for each area. The purpose of this activity is to see if the student can apply what he has previously learned about subcommunities. The student may make any kind of social or economic subcommunities he wishes, as long as he shows <u>why</u>. Example: label one as a poor black community, one as an upper class community of professionals, etc.

4 E. This activity is aimed at having the student express in an essay what he has learned about increased population density causing urbanization and consequently, division of people into subcommunities. He is to express what probably would be of concern to an individual who is moving from one area to another (hypothetically).

Hopefully, the student will mention that the person would probably consider the residential neighborhood he prefers, the church or synagogue he wishes to be near, the economic area he feels he can afford, etc. Thus, the student will hypothesize in his essay (probably without realizing it) that the person moving will look for a subcommunity. The teacher should point this out when discussing the essay with the student.

4 F. A simple yet time consuming activity, this affords the student an opportunity to see subcommunities at work in the school community.

Once the student has categorized his original three interviews ("jocks," "brains," "socialites," etc.) he will place 15 others into these categories. In doing this, you are not asking the student to pigeon hole everybody, but generally classify them. After this is done, he should be able to see that a heavily populated school building contains subcommunities.

In his paragraph the student must show differences between the groups (socially, economically, physically, etc.).

Concept III Optional Activities

4 G. This will requres some time and should, therefore, be offered as an optional activity at the start of the packet.

The student is to show with a mock-up (clay, cardboard, etc.) or written model a community with absolutely no socio-economic barriers or distributions. This is hard to do, maybe impossible, but allow any student who wishes, a chance to try it.

Remember, there must be no great variation between housing, where people work, location of social activities, etc.

4 H. In viewing the film "Something Old ... Something New," the student has an opportunity to view the themes of the packet once again and to see the difference in lifestyles between rural and urban settings. However, this film offers possible solutions to the discrepancies which exist.

Therefore, it would be very advantageous to allow all students to view the film at or near the end of the packet.

The student is then asked to make some conclusions about HUD's views for solving urban housing problems and community planning, and express his own views about community planning.

Remember that this last activity is going to require value judgements on the part of the students. Any statements in their paragraphs which defend or criticize community planning (and the millions of dollars involved with it) must be logically defended in the paper.

Something Old ... Something New (1971) 16 mm sound, 20 minutes, United States Dept. of Housing and Urban Development, Swank Motion Pictures, Inc., 201 S. Jefferson Avenue, St. Louis, Missouri 63166.

Administer post test at this time

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ENVIRONMENTAL ECOLOGICAL EDUCATION PROJECT

Parkway School District
Chesterfield, Missouri

DR. WAYNE FICK, Superintendent
VERLIN M. ABBOTT, Project Director

UNIT: POPULATION
Packet II

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SETTING

The United States is becoming an urban nation. Seventy-four percent of the population now lives in urban areas. America has changed from a country of farms and small towns into a nation of cities and metropolitan areas. What effects will this dramatic change have on the lives of all of us? This is hard to answer, but a few results are becoming increasingly apparent.

As population growth and mobility occur within our nation, many of our communities undergo a tremendous change. Not only is there the obvious physical change of a rural area that has become urbanized or an urban area that has become suburbanized, but also changes in the way we act, think and feel towards one another. One example of this is the socio-economic division of an urbanized area into many small subcommunities. Here we see an example of the effect of more people on man's interpersonal relationships with others around him. Indeed, the physical "face" of a community and the life style within it are now one aspect of the "people problem."

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CONCEPTS AND BEHAVIORAL OBJECTIVES

I. Urbanization is the change of a rural community with a population of fewer than 2,500 people per square mile to a community of more than 2,500 people per square mile.

1. The student, in a sentence of 20 words or less will define the term urbanization.

II. As population density increases in a community, there is often a change in the way people act, think, and feel.

2. The student will state in a written sentence what correlation, if any, there is between population density and juvenile delinquency.

3. After polling twenty people, ten from an urban area and ten from a rural area, the student will draw a conclusion as to the change in the feeling of responsibility to others. The student will state his conclusion in no more than three sentences.

III. As a result of urbanization, it becomes increasingly apparent that the population of a community distributes itself into subcommunities with similar social and/or economic interests.

4. Given an outline map of an urban community, the student will be able to divide it into three social and/or economic subcommunities labeling each and listing at least five characteristics of each subcommunity.

Take pre test at this time.

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INSTRUCTIONAL SEQUENCE

Behavioral Objective Number	Concept I Required:

1. A. Following this activity you will find a dictionary definition of urbanization and a numerical definition of urbanization often used by authorities in the study of population. Before beginning any of the other activities in this unit, study the two definitions carefully and be sure you understand them. Note any differences or any similarities between the two. You will be working with the numerical definition in most of the activities in this unit.

   URBANIZATION (working numerical definition) - That geographical location which has an average population density of more than 2,500 people per square mile.

   URBANIZATION (Webster's New Collegiate Dictionary) - "Quality or state or being or becoming urbanized . . . relating to, characteristic of, or taking place in a city (affairs, manners, lifestyle). Relating to a densely populated area and belonging to or relating to buildings that are characteristic of cities and specifically including INDUSTRIALIZATION.

1. B. You are all urged to next watch the film, "Changing City." This is a critical documentary on the growth of a metropolis and its effect on the lives of people. This film should give another and probably deeper feeling for what urbanization is and probably means. After viewing the film, list some areas of life; that are affected by urban population growth.

1. C. Enclosed in this packet on Data Sheet #1 you will find some maps of Missouri counties and their population density changes between 1960-1970. Examine these maps and note which counties increased and decreased. Also note which counties are farm lands and which counties are near large cities.

   1. What is occuring?
   2. What general areas are people moving to?
   3. Are there any patterns emerging? Why?

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Behavioral Objective Number	
	Concept I Optional:
1.	D. In this activity you are to obtain census figures for each state in 1960 and 1970, and find out which states lost population from 1960 to 1970. Then compare these with those that gained the most number of people during the same period. In general, is there evidence of an exodus from rural areas? Respond in a sentence of not more than 20 words.
	Concept II Required:
2 & 3	A. Choose two others working on this packet and together make a multi-media presentation on differences between rural, urban, and suburban areas. Each member should take slides depicting the lifestyle of people in these different areas.
2 & 3	B. Read the following selected readings, "Harlem" and "A Son of the Middle Border," which concern themselves with various types of communities and the people living in them. Write a paragraph noting any differences you find between them.
2 & 3	C. Along with six or seven others who are working on this packet, play the simulation game, "Ghetto." This will give you some idea of the pressures urban poor live under and the choices they must make. As you play the game, try to conceptualize how the urban poor work, live and educate themselves.
2 & 3	D. View the film, "Big City Blues" and try to consider the meaning of the film. Write a paragraph summary of the main idea of the film when it is over.
3	E. Design a poll that will be capable of determining degrees of responsibility to others. Consider what the questions should be and what results you are looking for. See your teacher for details.
3	F. After designing your poll, administer it to twenty people using ten from an urban background and ten from a rural background. Gather as much information as you can on their feeling of responsibility to others then write in one paragraph your conclusion based on the results of the poll.
2	G. In this activity you will use Date Sheet #2, which contains some statistics on juvenile delinquency referrals in various Missouri counties. Also given is the population density for these same counties. You are to study the data and state a conclusion in not more than five sentences.

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Behavioral Objective Number	Concept III Required:
4	A. Please read the following paragraphs on the topic of "subcommunities." Make sure you have a good understanding of what subcommunities are before proceeding to other activities in this section of the packet.

For the purpose of this unit, you should have some kind of working understanding of what is meant by the term "subcommunities."

If we remember that the prefix sub means a smaller portion of, or, a smaller, more simpler version of anything, it follows that a subcommunity is a smaller, more simple form of a community.

In this packet, you will learn how communities of people are often divided (after the phenomenon of urbanization has taken place) into more specific, individual groups which we refer to as subcommunities. Usually, a subcommunity will have people with similar social and/or economic backgrounds. These various subcommunities of people grouped together homogeneously, comprise the greater urban community of vast types of people with wide ranges of economic, social and political interests.

Although a county or nation could technically be considered a subcommunity of the world, we would like you to use the term subcommunity in regards to specific locales.

In the following activities, you will be asked to analyze the affect of urbanization on communities and to test the idea of whether or not urbanization does, in fact, lead to homogeneous subcommunities.

4	B. Actively participate in a small group discussion on the topic of "Examples of Subcommunities" distinguishing the characteristics of them. See your teacher for information on the formation of these groups.
4	C. Data Sheet #3 contains a list of locations, some of which are subcommunities. Circle each subcommunity and state why you think it is a subcommunity. See your teacher for a copy on which to write.
4	D. Using the map given on Data Sheet #4 construct social and/or economic subcommunities within the community. See your teacher for a copy of Data Sheet #4.
4	E. Write a short essay telling what considerations must be made when a person moves from a rural to an urban area.

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Behavioral Objective Number		
4	F.	Along with four other classmates question three people in your school. Construct a questionnaire in advance, with questions such as: (1) What is your favorite amusement? (2) Do you like academic subjects? (3) How many of your friends would you consider "close?" To do this place these three people into separate categories. Following this, question at least 15 others to see if they can be placed into the three original categories. After this has been done, explain in a paragraph how each of the three original categories has now become a subgroup or subcommunity of the school community, stating the differences between the groups.
4	G.	Design a model community with no subcommunities. Use either a written model or a mock-up.
4	H.	View the film, "Something Old . . . Something New," which depicts lifestyles in urban and rural communities, and tells of possible ways to solve these great differences. Then write a short paragraph giving your opinion of the value of HUD in this area and the value of better community planning.

Take the post test at this time.

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STUDENT READINGS

Harlem

Daddy's fist hit the table with a bang. If those boys have stayed out of school again it's gonna be me and their behinds. They're hanging around with those damned Ebony Dukes, that's what's got into them lately." He turned to Mother, shaking his fist. "I'm warning you. Nobody in this family has ever been to jail and if those boys get into any trouble I'm gonna let their butts rot in jail. You hear me?"

Mother nodded. She knew as I did that Daddy would be the first one downtown if anything happened to his sons. James Junior, fifteen, and Claude, fourteen, were suddenly making a career out of playing hookey and staying out late at night, and it was true, they were messing around with the Ebony Dukes.

The Dukes were the toughest gang this side of Mt. Morris Park. When they weren't fighting their rivals, the Black Raiders with knives, they were jumping the Jew boys who attended the synagogue on Hundred Sixteenth Street, or mugging any white man caught alone in Harlem after the sun went down. I had been nervous enough before about my brothers - always afraid they might fall off the roof (all the boys had to jump from one rooftop to another to prove they weren't chicken) or get run over by a car - and now I also had to contend with them getting knifed or killed in a gang fight.[1]

[1]Harlem. Louise M. Meriwether. Signet Books, The New American Library, Inc., New York, N. Y., 1970.

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A Son of the Middle Border
by Hamlin Garland

Hamlin Garland is well-known for his writings about life in the Midwest in the late nineteenth century and early twentieth century. He spent his early years on a farm in Iowa. The following passage from his novel, A Son of the Middle Border, tells about Garland's life in Iowa. Since Iowa was settled earlier than the areas of the Great Plains you have been reading about, farming was more advanced there than it was in areas farther weat. However, Garland's description can apply to many Great Plains farms of the late nineteenth century.

As I look back over my life on that Iowa farm the song of the reaper fills a large place in my mind. We were all worshippers of wheat in those days. The men thought and talked of little else between seeding and harvest, and you will not wonder at this if you have known and bowed down before such abundance as we then enjoyed.

Deep as the breast of a man, wide as the sea, heavy-headed ... many-voiced ... a meeting place of winds and of sunlight--our fields ran to the world's end ...

Haying was over, and day by day we boys watched with deepening interest while the hot sun transformed the juices of the soil into those stately stalks. I loved to go out into the fairy forest of it, and lying there, silent in its swaying deeps, hear the wild chickens peep and the wind sing its subtle (gentle) song over our heads. Day by day I studied the barley as it turned yellow, first at the root and then at the neck (while the middle joints, rank [thick] and sappy, retained their blue-green sheen), until at last the lower leaves began to wither and the stems to stiffen in order to uphold the daily increasing weight of the milky berries, and then almost in an hour--lo! the edge of the field became a banded ribbon of green and yellow, languidly (slowly) waving in and out with every rush of the breeze.

Now we got out the reaper, put the sickles (blades) in order, and father laid in a store of provisions ...

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Reaping generally came about the 20th of July, the hottest and dryest part of the summer, and was the most pressing (urgent) work of the year. It demanded early rising for the men, and meant an all day broiling over the kitchen stove for the women. Stern, incessant toil went on inside and out from dawn till sunset, no matter how the thermometer sizzled. On many days the mercury mounted to ninety-five in the shade, but with wide fields all yellowing at the same moment, no one thought of laying off. A storm might sweep it flat, or if neglected too long, it might "crinkle" (dry up) ...

No task save that of "cradling" (mowing grain by hand with a scythe) surpassed in severity "binding on a station" (tying the grain stalks into sheaves, or bundles, as they fall from the reaper). It was a full-grown man's job, but every boy was ambitious to try his hand, and when at fourteen years of age I was promoted from "bundle boy" to be one of the five hands to bind after the reaper, I went to my corner with joy and confidence. For two years I had been serving as binder on the corners, (to keep the grain out of the way of the horses) and I knew my job.

I was short and broad-shouldered with large strong hands admirably adapted for this work, and for the first two hours, easily held my own with the rest of the crew, but as the morning wore on and the sun grew hotter, my enthusiasm waned. A painful void developed in my chest. My breakfast had been ample, but no mere stomachful of food could carry a growing boy through five hours of desperate toil. Along about a quarter to ten, I began to scan the field with anxious eye, longing to see Harriet and the promised luncheon basket.

Just when it seemed that I could endure the strain no longer she came bearing a jug of cool milk, some cheese and some deliciously fresh fried-cakes. With keen joy I set a couple of tall sheaves together like a tent and flung myself down flat on my back in their shadow to devour my lunch.

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Tired as I was, my dim eyes apprehended something of the splendor of the shining clouds which rolled like storms of snow through the deep-blue spaces of sky and so, resting silently as a clod I could hear the chirp of the crickets, the buzzing wings of flies and the faint, fairy-like tread of smaller unseen insects hurrying their way just beneath my ear in the stubble (the short stubs of stalks which remain after the grain has been mowed). Strange green worms, grasshoppers and shining beetles crept over me as I dozed.

This delicious, dreamlike respite was broken by the far-off approaching purr of the sickle, flicked by the faint snap of the driver's whip, and out of the low rustle of the everstirring (miniature) forest came the wailing cry of a baby wild chicken lost from its mother--a falling, thrilling, piteous little pipe ...

At noon we hurried to the house, surrounded the kitchen table and fell upon our boiled beef and potatoes with such ferocity that in fifteen minutes our meal was over. There was no ceremony and very little talking till the (hidden) wolf was appeased.[1]

[1]Hamlin Garland, A Son of the Middle Border (New York: The Macmillan Company, 1917).

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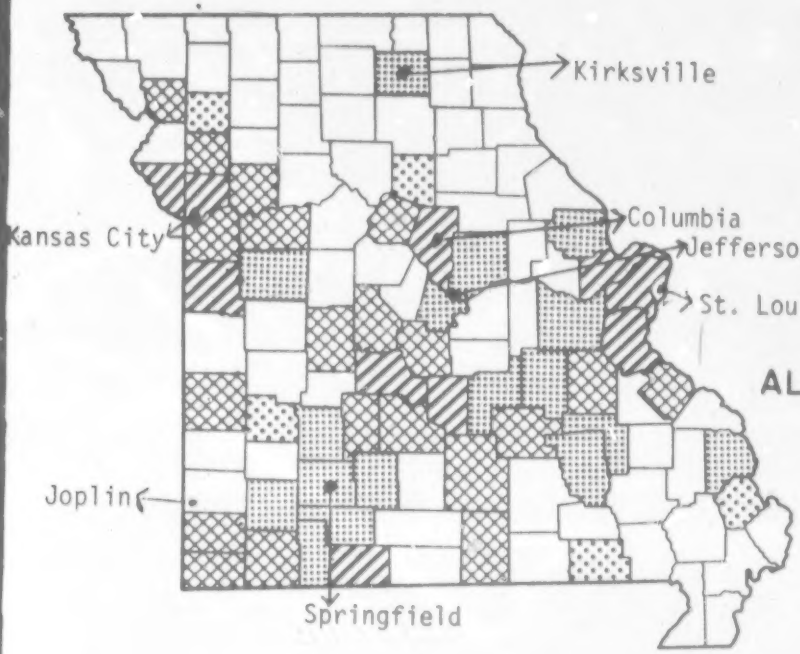
POPULATION CHANGE BY COUNTY, 1960-1970



PERCENT INCREASES

- 25% AND OVER
- 10—24.9%
- 2—9.9%
- 0—1.9%

ALL PERCENT DECREASES

PERCENT DECREASE

- 25% AND OVER
- 10—24.9%
- 2—9.9%
- 0—1.9%

ALL PERCENT INCREASES

SOURCE U.S. CENSUS DATA

POPULATION CHANGE, 1960 to 1970

The preliminary census results for Missouri showed that the state contained a population of 4,687,759, an increase of 367,946, or 8.5 per cent, since 1960.

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DATA SHEET #2

Below you will find a list of selected Missouri counties with each one's population density and number of referrals to the county juvenile courts.[1] Study the data and determine what correlations, if any, can be made between population, population density and juvenile delinquency. Then, find the ratio between referrals and population. What further conclusions can you make?

[1]Statistics for 1970. Source State Department of Welfare, Jefferson City, Missouri.

1970 COUNTIES JUVENILE REFERRALS

Counties	Referrals	Total Pop.	Density
Harrison	49	10,257	14.2
Linn	147	15,125	24.3
Jackson	8,969	654,178	1,085.5
Boone	1,246	80,911	118.1
St. Louis	12,396	951,621	1,906.5
St. Clair	19	7,667	11.0
Newton	304	32,981	52.3
Oregon	4	9,180	11.7
Reynolds	0	6,106	7.5
Cape Girardeau	441	49,350	86.0
Howell	69	23,521	25.6

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DATA SHEET #3

Directions: Out of the following list of locations, circle the ones which you feel might be considered subcommunities and briefly state why you feel this way. A little research may be necessary before completing this sheet.

1. Mill Creek Valley _____

_____

2. St. Louis _____

_____

3. Upper Ladue Road Area _____

_____

4. Germany _____

_____

5. United States of America _____

_____

6. The "Hill" in St. Louis _____

_____

7. Meadowbrook Country Club _____

_____

8. Creve Coeur _____

_____

9. Appalachia _____

_____

10. St. Joseph's Church _____

_____

DATA SHEET #4

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Directions: Label each of the five subcommunities of this city and explain why you labeled it this way. Use any basis for identification, but remember what a subcommunity is.

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FAMILY STRUCTURES

III

CONCEPTS AND BEHAVIORAL OBJECTIVES
Packet III

I. Certain family responsibilities, such as sex education are becoming functions of society.

1. The student will be able to name four organizations and/or public institutions in St. Louis County which have made sex education a greater part of their program during the past ten years.

II. As a result of increased population density, the teenager has more opportunity to become involved in activities outside the family.

2. After examining a list of teenage activities outside the family (as performed in different locales), the student will be able to draw a conclusion in a short paragraph on the effect population density has on his opportunity to become involved in activities.

3. The student will be able to list five possible organizations or groups in which he can participate without his other family members.

III. The role of each family member changes as a result of the increase in population.

4. Given statistical data showing increases in the amount of jobs available to women, the student will be able to write one paragraph stating conclusions about the role of the woman in today's family. . .

5. By the termination of this unit, the student will be able to write a short paragraph describing how the role of the father within the family has changed.

6. Considering the increased population, the student will be able to describe in a paragraph what part a teenager should play in family decisions.

Take the pre test at this time.

PRE-POST TEST
Packet III

Behavioral Objective Number		
1	1.	Name four organizations and/or public institutions in St. Louis County which have made sex education a greater part of their program during the past ten years. 1. 2. 3. 4.
2	2.	In a short paragraph of no more than 50 words, draw a conclusion about the effect population density has on your opportunity to become involved in activities outside the home. Examples of various activities are: dancing, spectator sports, JCCA, YMCA, charity organizations, etc.
3	3.	List at least five organizations or groups in which you can participate without other members of your family. 1. 2. 3. 4. 5.
4	4.	Considering the increased amount of jobs available to women today, write a short paragraph of no more than 50 words stating conclusions about the role of the woman in today's family.
5	5.	Write a short paragraph of no more than 50 words describing how the role of the father within the family has changed in the last 20 or 30 years.
6	6.	Considering the increased population, describe in a paragraph of no more than 50 words what part a teenager should play in family decisions.

ANSWER SHEET FOR PRE-POST TEST
Packet III

1. Parkway School District
   St. Louis County Health Department
   United Hebrew Temple
   YMCA
   JCCA
   Any other which the student can verify

2. The student's answers should make reference to the idea that there are many opportunities for activities today (see Instructional Sequence), and the greater the population density, the more activities available to young people.

3.

School Clubs	YMCA, JCCA
Varsity Athletic Teams	Athletic Teams (Private)
Speech and Drama	Social Clubs
Debate	Charity Work
Intramurals	Jobs
Student Council	Hospital
Tutoring Staff	Religious Worship

4. Student's paragraphs should make reference to the fact that the role of the woman is changing. Because of more available jobs and an increased variety of jobs, women are becoming less confined to the traditional roles of subservience and more independent and equal in their family role.

5. Because of the working mother and the more informed child, the role of the father has changed from the authoritarian figure to an equal member of the family. The father commands the same respect but not the authority and fear from other family members.

6. Because of his exposure to the mass society, the teenager is more aware of the world around him. Because of the increased number of contacts with people of various views and beliefs, the teenager is more informed and opinionated. Consequently, he demands more respect in the family, wants to be treated as an equal, and feels he should have an equal voice in matters that will affect his family.

BACKGROUND INFORMATION
Packet III

In choosing this as one of the packets in this course, it was the feeling that one area which has been drastically affected by population growth is the internal structure of the family. Mother, father and child are finding their roles in life, especially within the family, to be changed greatly, possibly because of the large population increases.

It was felt that family responsibilities are changing and that the traditional roles assigned family members to carry out these responsibilities are also changing. For example, no one can dispute that teenagers today have different, and to an extent more varied interests than a generation ago. Women, once the servant to cooking and cleaning, are becoming liberated and are assuming more of an equalitarian role in the family. The father, once the patriarchal figure with absolute authority, now finds his authority questioned and his role somewhat unclear.

To say that more people have created these phenomena would be a generalization. But we cannot overlook the fact that teenage involvement away from the home, less dominating fathers, and liberated women seem to be found more in the urban or highly populated areas. Thus, we have approached the change in the family with population in mind. Again, as in other packets, this unit is built on a premise or hypothesis, and may be disproved as the unit progresses. This is perfectly acceptable. However, included in your teacher background is information which supports the concepts of the packet. Remember the increase in population density is being offered as only one possible cause or explanation for the changes in family structure.

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Oh! Sex Education!

A number of more prominent sex education proponents told me during the course of interviews that they thought SIECUS and its allies had helped to stimulate the sex education controversy. They did not want to be quoted saying so, but they would tell me "off the record" that they thought SIECUS had been too "militant" or too pushy or too pious and aggressively crusading. Or they would tell me that SIECUS should have handled the press better, that Mary Calderone had no sense of public relations, or that it was too bad SIECUS couldn't afford to hire a public relations specialist. (SIECUS *had* hired a public relations specialist for a time.)

They didn't want to be quoted, they would say, because SIECUS had already been so cruelly smeared. Mary Calderone had suffered through unjustified attacks, and they did not want to add to the artillery of her unsavory critics. And Professor James Malfetti told me that he thought a number of the sex education proponents had created their own troubles by raising "unrealistic expectations" about the saving powers of sex education (vis-à-vis VD and illegitimacy), which they were later unable to fulfill.

Nevertheless, it seemed to me that SIECUS had no more created the sex education controversy than the Civil Rights Movement had created America's racial troubles. And I considered those off-the-record comments to be evidence that some of the sex education proponents had already come to believe a little of the Antis' propaganda: that SIECUS *was* guilty of foisting sex education into the schools from the outside, and that without the organization, sex education would have been indigenous, local, and therefore uncontroversial.

The SIECUS people did push for support for school sex education programs among the large "helping profession" organizations. But SIECUS received, in its happier years before the battles, something like 1,000 letters a week, large numbers of which came from school districts that wanted help in establishing their own sex education programs. Now, it may have been that when Mary Calderone went into a community, she could have used a little more discretion with the local media—not saying in front of reporters, for instance, that she had very personal memories of the hazards of shotgun weddings. But sex education was obviously in vogue during the sixties, and it was my contention that if Mary Calderone hadn't been around, some other human relations expert would have been blamed for the vogue.

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Because it just happened that while that vogue was developing, a great puritan frenzy was incubating on the shelves of that bookstore at Knott's Berry Farm and inside the slick sex-and-civil rights magazine that was first displayed on Alabama newspaper stands after the great Selma March of 1965. Sex education was a perfectly suited political issue for people who had long read political implications into pornography and interracial couplings, people whose fears of the mythical hippie love-making were intricately tied up with their fears of Communism or of anarchy.

And it didn't seem to matter in the least that no one involved in the debate at the start of it could *prove* that sex education would subvert the morals of Americans or teach them to make "responsible use of the sexual faculty." It seemed to matter even less in July of 1969, when two men at the University of Kansas Medical School in Kansas City published some findings that showed absolutely no relationship between sex education and "premarital petting and coital behavior." These two men, Gerald H. Wiechmann and Altis L. Ellis (respectively, Assistant Professor and Research Assistant in the Department of Preventive Medicine and Community Health), had questioned 545 students enrolled in a community health course at the University of Missouri about their exposure to sex education (including grade level) and their experiences with the two aforementioned pleasurable activities. They published their findings in the July, 1969, issue of *The Family Coordinator*.

Several months later John Steinbacher discovered their little article and said (in his column) that the thing disproved all the inflated claims of the sex education proponents. The more responsible sex education proponents told me they'd never made any inflated claims; they just thought sex education was a good thing. Mary Calderone went on saying that sex education could provide a "balancing force" against the terrible sex exploitation in the media.

It didn't matter what sex education could do because the argument was not about facts, it was about beliefs. H. L. Mencken knew about this kind of argument from the old Evolution debates, and he had summed it up this way:

> No controversy to my knowledge has ever ended on the ground where it began. Even the historic one between Huxley and Wilberforce, two of the most eminent men of their time in England, ranged all over the landscape before the contestants had enough. It began with Huxley trying to prove that Darwin's *Origin of the Species* was a sound book: it ended with Bishop Wilberforce trying to prove that Huxley's grandfather was a gorilla. What was it's issue? Did Huxley convert Wilberforce? Did Wilberforce make any dent in the armor of Huxley? I apologize for wasting your time with silly rhetorical questions. Did Luther convert Leo X? Did Grant convert Lee?*

And similarly the sex education controversy was an argument between two sets of believers, those who just *knew* that sexual enlightenment contributed to any number of socially commendable attitudes ("sexual sanity" being only one), and those who just *knew* that such enlightenment created terrible and irresistible temptations that put a strain on every ounce of civilization in a child's mind. And though the two sides might be factionalized among themselves, disagreeing over fine psychological points, or religious styles, their battle always centered on this one question of faith: Was or was not knowledge of sexuality a good thing?

Professor James Malfetti, who was of all the proponents perhaps the least guilty of making unfounded claims about the saving powers of sex education, was still unable to relinquish the last central article of the educators' faith.

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"You see, a course can be defended on—if it's built on an educational premise," he told me. "We assume, and we have a lot of capital invested in it here at Columbia, that there's a value in increasing the information base of an individual so that he's in a position to make a better decision. If an individual is acquainted with a wider information base, allowed an opportunity to discuss ramifications of potential behavior, get feedback from peers, get feedback from an instructor, it's reasonable to assume that for *him*, he will make a better decision for him[self] as a result of that experience than he would make without it.

"Now that's a premise on which *most* education is based."

Professor Malfetti used the phrase "better decision" instead of "rational decision" perhaps because he was a careful man and knew when he was speaking out of his own value system. But the fact remained that he *believed* education could help people to live more rationally or more happily or whatever you call it when they are making "better decisions." And that was something no one could prove. Did James Joyce make "better decisions" for himself because he was perhaps the most educated man of his age? Did Edward Teller? Did Bertrand Russell? Who could judge? They had between them altered our literature and our philosophy and invented nuclear warfare, and surely, none could prove that their education alone had equipped them to make "better decisions" for themselves or for their fellow men.

"To me," the inspired Mrs. Pippinger had said, "higher education has become America's God. People are inclined to think that if you have a Ph.D., you're God. We don't have to know the answers to everything. Satan had to know everything, too. That's why he rebelled."

To her the yearning for knowledge was in the end something frightening and Faustian, a dangerous longing to venture forth upon the void, a terrible threat to a mythical, unself conscious innocence that had been long ago set down in a folk tale about a place called the Garden of Eden.

She and her kindred spirits could no more demonstrate the outward and visible validity of her belief than could Professor Malfetti prove that knowledge made men rational. It was perhaps the greatest irony of the entire sex education battle that the man who had, in a sense started it, the man who startled the Western world with his revelations about infantile and childhood sexuality, had never held out the promise that enlightenment would render man more rational. Though he argued for sex education, Freud never promised that it would produce a race of happy and reasonable men or resolve all the conflicting claims of their civilizations and the individual genetics that propelled them toward that uncontrollable mystery on the bestial floor.

Oh, Sex Education. Mary Breasted, Praeger Publishers, New York, NY, 1970.

The Good Life

ANDRÉ MAUROIS

Translated by Lawrence G. Blochman

Until the outbreak of the First World War in 1914, we might have declared hopefully that mankind seemed to be making some progress toward civilization. The eighteenth century had been called "The Century of Enlightenment" and it is true that science, philosophy, and other matters of the spirit shone brightly during that period. Culture in the eighteenth century, however, was reserved for a numerically small elite; the masses remained steeped in superstition and fanaticism; torture and slavery had not been abolished. The nineteenth century and the beginning of the twentieth saw the rapid advance of democracy and justice. Manners had become gentler. A judicial error could arouse the whole world to indignation, as was seen at the time of the Dreyfus affair. Compassion, patience, and friendship among men seemed to be necessary virtues which the majority tried hard to practice.

In 1961, alas! we must record not further progress but a series of terrible retrogressions. During the course of the Second World War, we witnessed atrocities such as had not been committed for a very long time. Torture had become standard operating procedure rather than an exception lapse. Violence, either by war or mass disorders, had replaced negotiation and compromise. Political partisanship, nationalism, and racial hatred are today resorting to a terrorism that we had a right to believe was obsolete. Our very manners today are more brutal. Our films and our theater reflect a society in which noble sentiment is rare and a decent way of life held up to ridicule. Our screen is monopolized by murders, holdups, rapes, and orgies. As an indication of how far we have retreated from humanity, compare the motion pictures deriving from the daily life of our times with *La Princesse de Clèves*, a film based on a novel of the seventeenth century.

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Why this retrogression? We might have expected the contrary. We might have hoped that democratic education, in giving everyone a chance to share the culture of the past, would have produced a more kindly society. It would seem that the knowledge of the humanities, that heritage common to all men, that vast religious, literary, and artistic patrimony which could unite all peoples in common admiration, should have rendered impossible a certain barbarism which we so aptly call "inhumanity." Actually, the humanities no longer exercise their benevolent influence. For the first time in history men have created the United Nations—and never before in history have men been so disunited. They have drawn up a Declaration of the Rights of Man applicable to all without discrimination because of country, race, or religion—and rarely have the rights of man been so widely disregarded in so many parts of the world. Why?

There are many possible answers to this question because there are underlying reasons of many different kinds which combine to produce the deplorable situation. There is of course the disastrous role played by the two great wars. There are the contributions of false doctrines and the philosophies of despair. And there is another cause, frequently overlooked, which I should like to underline here: *Overpopulation.* You may well ask: What relationship can there be between overpopulation and morals, between overpopulation and the humanities? I shall try to show that the relationship is very close indeed.

First of all, we must understand that the humanities, broadly speaking, are passed on from generation to generation through the media of the family and community. It is not by the philosophers that our children are taught good manners and morals; it is by example. In my biography of Adrienne de La Fayette, I described how girls were brought up in a religious family of the eighteenth century. There was no constraint; the mother appealed to her daughters' reason. But she was an admirable mother and nobody could possibly have lived with her without seeking to imitate her. The twelve-year-old of that time wrote letters which in the perfection of style and sentiment could be equaled by few people of our day, even the best and most intelligent.

Now, this familial education, as efficacious as it was solidly based, has disappeared almost entirely today. Our overpopulated cities consist of huge, hastily built barracks in which families that are too big, crowd into apartments that are too small. The children rarely stay home because there is no room for them to play. They go outside to play with the neighbors' children—perhaps to form the nucleus of one of the juvenile gangs which are becoming too ne-

farious in too many countries today. Education by example is out of style. The bond between generations has grown slack. If I may be permitted to cite a personal example, my own taste for letters was transmitted to me by my highly cultured mother who from my earliest childhood read to me from the great authors, adding her own commentary, so that I should get to know the masterworks of literature at first hand. Very few mothers today would have the chance to exert a similar influence on their offspring.

In the past, familial education was supplemented by community education. The village was a school of neighborliness and friendship. Because a villager knew all his neighbors and also knew that he was destined to spend his life among them, he strove to prove himself a man of good graces and good manners. But in our overpopulated world, the small community is becoming more and more scarce. In African and Asian countries, the law of the village and the law of the tribe have been the sources of all civilization. But since overpopulation and industrialization tend to create urban centers becoming ever more huge, what is to become of the ceremonies and good manners of the past? They are disappearing—or nearly. What has been the basis for our nobler sentiments? Love and affection, which thrive best in the smaller units of society. True, love is not dead, but in our day it assumes its most ephemeral and least lovely aspects. Sexuality will never replace tenderness, nor will it inspire either compassion or tolerance. It is rather akin to brutality.

The salvation of our civilization lies with the humanities as we may learn them from the great books. There is no finer school for fine sentiments than the great novels or the best of the theater. It should be the role of our universities to bring humanity back to its sources. If the universities throughout the world could teach men of all races that in our great poets and philosophers they have friends in common, a strong, invisible web would be woven to join all peoples. But in this domain, too, overpopulation exerts a sorry influence. Competition is bitter in an overpopulated world. Man once produced about as much food as he needed for himself. Today more people are crowded upon a land than the land can feed. Those in excess must learn to earn their living in another manner.

Unfortunately, they stand to earn a more generous living if they study subjects other than the humanities. The modern world, preoccupied especially with machines and armaments, demands engineers, pilots, physicists, chemists, doctors, mechanics. Education is daily becoming more scientific and more technical. If only the student had spare time enough to devote to the humanities! But the techniques of our age have become so complex that to master them a student has no time to spare. The peoples of Asia and Africa are all demanding technicians. The United States, the Soviet Union, the countries of western Europe must turn them out in growing numbers to meet the demand. As a result, the humanities are largely neglected today, and the qualities of style and precise vocabulary are declining in all countries. This creates a dangerous situation. Technicians capable of building powerful instruments of dreadful destruction are no longer able to understand the fine shades of meaning and the delicate distinction between words. They are therefore helpless to defend themselves against the cruel and absolute doctrines which turn their own techniques to the service of fanaticism.

An overpopulated earth will bring forth unintelligent generations because culture demands leisure and silence, which have become lost qualities. Our information media must drop their standards lower and lower in order to reach the level of the new masses, innumerable and unreasoningly exacting. An old Buddhist text predicts: "The time will come when grown men will have the intelligence of a child of ten. These ten-year-old men will be dominated by violent hates, violent malevolence, and a violent desire to kill." We are not far from the day when the murderous mechanism of the nuclear bomb will be placed at the disposition of leaders with infantile minds, leaders hard-pressed by starving multitudes. Should this day come, overpopulation will produce disintegration.

Can this movement be stopped? Can this tide be reversed? Without doubt, it can, but reversal will require great statesmen with the courage to stem the irrational increase of population throughout the world, to re-create within our great, swarming urban centers, the old civilizing cells—the family and the village, fountainheads of all culture, and to restore to favor in all their forms the humanities and the amenities of life. Is all this possible? The history of mankind does record examples of such great reversions. Christianity is one of them.

The wild proliferation of men is a cancer of our planet. A superficial cancer may be cured. But the cure requires treatment—and perseverance.

Our Crowded Planet. Fairfield Osborn, editor. Doubleday and Co., Inc., Garden City, New York, 1962.

Concept II

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When Is a Family Not a Family?

"THE FATHER IN THE AVERAGE modern home simply does not exist as a person. He is either physically away or mentally absent due to preoccupation or mental strain, and in his absence, the big, strong mother fills the horizon. A large percentage of these middle-aged mothers I meet as patients are dissatisfied themselves, unhappy. This lack of the father and husband as a stabilizing influence threatens disintegration of the family," warns Dr. Shepard Ginandes, professor of adolescent psychiatry at Boston University Law-Medicine Institute.

Equally devastating are parents so concerned with social status or with business advance (Is not the home their job, too?) that they are unaware of what is happening to their own families. Children, rebelling against such a parent who says carelessly, "Oh, kids will be kids! Johnny's just going through a phase," may turn to drugs, become dropouts, or street people searching for love and understanding in a technological age prouder of its computers than its humanity.

What's Right With Us Parents? G. N. Fletcher. Wm. Morrow and Co., Inc., New York, NY, 1972.

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THE TOUGH JOB OF BEING A GOOD PARENT

Middle-class American parents are obsessed with being good parents. Few values rate higher than being Good Mother or Good Father. But American parents are not at all certain that they are succeeding as good parents. So they are anxious. This has led Max Lerner to say, "It is evident that in no other culture has there been so pervasive a cultural anxiety about the rearing of children." (*America as a Civilization*, p. 562.) (I have devoted a chapter to the anxious parent in my book *What's Happening to Our Families?*)

Women in particular have the desire to be good parents. A woman can live reasonably well with a sense of failure as a housekeeper, cook, or lover. But to feel that she has failed as a mother leaves her with an overpowering sense of failure. It is as if she had failed at the very core of her reason for existing.

Perhaps it is from this desire to be a good parent that children are second only to money as a source of quarrels between husband and wives. In fact, even after children are grown and no longer in the home they account for 10 percent of the quarrels. (Blood and Wolfe, *Husbands and Wives: The Dynamics of Married Living*, p. 247.)

It has probably never been easy to be a good parent.

The Tough Job of Being a Good Parent

Ancient records document this. One can easily imagine a harried Eve meeting a tired Adam at the door as he returns from the fields. In exasperation and despair she says, "I must be failing someplace; Cain and Abel fight constantly!"

Regardless of the difficulties confronted by earlier generations of parents, this author believes that it is, in fact, more difficult to perform well one's parental role in twentieth-century America than it was in earlier centuries. Numerous factors seem to have conspired to leave the modern parent with a gnawing sense of frustration, failure, and guilt. This chapter will explore some of the reasons for this phenomenon. (An excellent treatment of the subject of parenthood is to be found in E. E. LeMasters, *Parents in Modern America*, and as will be indicated, this writer is indebted to him for some of the ideas expressed herein.)

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Dilemmas of the Modern Parent

The contemporary parent is caught between the desire to be a good parent, on the one hand, and several forces that have combined to mitigate against the achievement of that goal, on the other hand.

To begin with, every parent is at the mercy of forces beyond his control in the particular child born into his home. That is, parents have no choice about *which* child is born to them. Often the child's very birth is an "accident." The parents have no control over sex, body build, heredity, or those temperamental qualities which some scientists now think may be genetically determined or influenced. In brief, to become a parent is to commit oneself to a relationship with another human being "sight unseen." One of

the facts of life is that parents may have children whom they would not choose as friends. But perhaps the feeling on the part of the child makes it mutual.

Although it does not occur to most of us to quarrel with the fate that placed a particular child in our home, some adults could doubtless be better parents to a different child with a different makeup.

Secondly, being a parent is complicated by the rapid and tumultuous social changes taking place in twentieth-century America. In stable, relatively unchanging societies the matter of being a parent and a child remains rather unchanged from generation to generation. In these societies most all parents rear their children very much alike. They have similar limits, expectations, and goals. Compare that with the host of differing styles of life in your community. Not only are the limits, expectations, and goals for your child different from those you grew up under, but they are also likely to be different from those of other parents in your present community—even the next-door neighbor! Thus, the parents of one child have an eleven o'clock deadline for their child to be in from a date, while other parents have the midnight hour, and others one o'clock. And the age at which a child can start dating in one family is as soon as the child is asked, while another family says, "Not until you're fourteen," and another, "Not until you're sixteen."

The present society is changing so rapidly that child-rearing practices that were appropriate for a grade-school son may not be appropriate for a younger son when he too reaches that age. Thus, the modern parent is deprived of some of the learning experience to be derived from being a parent to older children.

Thirdly, modern parents are faced with a lack of clear

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parental models. There is no clear-cut pattern to follow. They may know more about what parents *were* than what they *are*. They may know more about what they *don't* want to be as parents than what they *do* want to be. The modern father, for example, is faced with a confused model of a father that is partly derived from the image of a father in a patriarchal society and partly from the conglomerate styles of family life to be found around him today. Part of this model calls for him to be a strong, "head of the house," authoritarian type of father. Another part calls for him to be understanding, a friend, confidant, or even a pal to his children. One model calls for him to be strict and firm; another calls for freedom and permissiveness. No wonder he is confused! What we need is a clear model of what it means to be a Good Father or a Good Mother in this last half of the twentieth century.

Fourthly, the parent's task is made difficult by the decline in parental authority and control. This is especially true of the father. When Ogburn and Nimkoff some years ago asked eighteen leading experts on the family to list some of the most important changes affecting the family "in recent times," the third most frequent change noted was the decline in the authority of the husband and father. (*Technology and the Changing Family*, p. 7.)

Much of the modern child's time is spent away from the family home in school, entertainment activities, and friendships where the parents have little or no knowledge about what is happening and consequently little control over the child's behavior. As LeMasters observes, modern parents are put in "the unenviable position of having complete responsibility for their offspring but only partial authority over them." (*Parents in Modern America*, p. 51.) No businessman would accept full responsibility for a task without

being given control over factors influencing the success of that task. But this is exactly the position of that businessman as a parent at home.

Fifthly, the modern parent measures himself with a long yardstick—one with at least forty inches instead of the usual thirty-six! That is, the present generation of parents are not content with being as good as their parents were. They have to be better! They have higher expectations of themselves than their parents had of themselves. If the parents are high school graduates, they want their children to be college graduates. If the father had to work his way through college, he does not want his son to "work like I

had to work." Furthermore, in the realm of personal behavior the parents seem to have higher expectations of themselves. Parents of an earlier generation were likely to attribute Johnny's behavioral problems to a phase he was in, something he learned from bad company, or perhaps to some hereditary cause: "It's that Stevens' blood in him." The modern parent is denied such luxuries. Instead, he blames himself with, "Maybe I'm putting too much pressure on him," or other such self-blame explanations.

This brings us to a sixth dimension of the problem of being a good parent today—the accusing finger of family experts. When Johnny develops some problem, the modern parent feels himself surrounded by a host of accusing fingers attached to the hands of "experts" who tell him that *he* is to blame for the problem. There are no failures as children, only failures as parents. Most of what the parent reads is likely to remind him that the child is merely a reflection of the quality of parenting he has received. Consequently, rather than help the parent to feel comfortable and confident in his role as parent, the experts often contribute

contribute

to undermining the parent's self-confidence and create unnecessary anxieties.

Finally, the modern parent's task is complicated by the longer years of dependency of the child. It is commonly recognized that the human offspring is dependent upon his parents for many more years than any other living creature. What is not recognized sometimes is that these years of dependency are increasing. This is particularly true in those families in which a college education is considered important. Not only is the parent responsible for seeing that the child gets a high school education, but he must now continue his responsibility on through college and perhaps graduate school. College and graduate school are considered a child's *right* in some circles. Even marriage may not free the parent of this financial responsibility. Many parents continue some support to their college-enrolled children after marriage. While there are still those who believe that, "If you're old enough to get married, you're old enough to support yourself," their tribe is diminishing. To be sure, many parents welcome these extended years of dependency, since it contributes to a continued feeling of being needed.

All the above factors combine to make the modern parent's role a difficult one. As with marriage, he is stuck with his role as parent "for better or worse." But unlike marriage, there is no provision made in the society for "resigning." We do have a societally approved method for withdrawing from marriage—divorce. Fortunately, most of us have no desire to resign as parents. But probably there are days when any parent would like to resign for a few hours.

The Worlds of the Old and Young Generations

It will be of help in understanding the generation gap if we pause first to take a brief look at the worlds in which the older and younger generations have grown up and are growing up.

Parents of the present young generation grew up in the economically deprived years of the Great Depression and World War II. A great debate raged during the late '30s as to whether or not the United States should get involved in the European war. Isolationists said we should stay out. After all, a vast ocean separated us from that far-off conflict. World War II changed all that. The advent of jet flight, rockets, and a worldwide communications network has today shrunk that ocean into a small fishing lake only minutes from shore to shore.

To that generation, the life goals were to establish "peace and prosperity" (a slogan of the day) and to make money to purchase all the consumer goods that they had been deprived of in their youth. Products of the nation's shops and factories became the sought-after "Promised Land"; education and hard work were Moses and Joshua leading them into that paradise; but some feared that they might not make it, since those were also the years of the cold war when the "Philistines" (Communists) were viewed as threatening to take over from either without or within the country. It was this fear that gave rise to Senator Joe McCarthy and his Communist hunts. Of course, many people reached the "Promised Land"; and for more than twenty-five years now an older generation of white middle-class Americans has drunk deeply of the milk and honey of an

affluent society. But they always remember the "seven lean years" of their youth.

Contrast that world with the present one in which young people find themselves. Where poverty of the depression shaped the lives of their parents, this new generation has grown up knowing nothing but affluence. They take it for granted. And with the growing use of computers in factories, all predictions are for a continued growing standard of living with goods produced by fewer and fewer people.

The fruits of an industrialized society continue to delight the older generation—dishwashers, television, self-cleaning ovens, stereo record players, speed boats. But the young can never remember a time when it was any different. They take these things for granted. The past to them is a far country, across an ocean of time. Furthermore, many of the younger generation do not share this enthusiasm with the progress of industrialization. As one young person said: "How can you call it progress? You have made the air unbreathable, the polluted streams kill the fish, our natural resources are being dissipated, autos clog the streets and countryside, the milk we drink contains strontium 90, and our vegetables reek of pesticides. But you call it progress!"

About the time the new generation was born, the world was abruptly and dramatically thrust into the electronic age. Today the whole world is caught in an interlocking network of electronic communications. What was an ocean barrier to one generation is so insignificant as scarcely to merit attention to the present electronic age. This generation has grown up with almost instant reporting of events from the far corners of the world. Because of this, particularly television, they are no longer ignorant about how others live, and they no longer feel remote, untouched by

events on the other side of the world. Whereas their parents considered themselves citizens of a nation, their children in many respects consider themselves to be world citizens.

Many of the younger generation have become sensitized to the subtle (and sometimes not so subtle) hypocrisies of our society. They score the older generation for its schizophrenic living, for talking of equality but squelching those who seek to claim it, for talking of love but practicing indifference, for panicking when they have lost their jobs but proudly proclaiming that if the poor weren't so lazy, they could find work. It is not enough for the older generation to say, "But look how much things have improved since I was a child." Nor is it enough to say, "You've told me about my hypocrisies, now tell me about yours." Nor will bumper stickers proclaiming, "America, love it or leave it" get the job done. All that the young know is that the "words of our mouths and the meditations of our hearts" do not coincide. They should.

In brief, the forces that have shaped the worlds of parents and children are vastly different. The parents' lives were shaped by two world wars, economic boom and bust, hunger, poverty, the decay of rural America, the radio, and the automobile. The new generation's lives have been shaped by prosperity, worldwide television, the bomb, jet flight, the growth and decay of our sprawling cities, free-wheeling technology, and the destruction of our natural environment. Because of this, Margaret Mead says that until recently our elders could say, "I have been young and you have never been old." But today the young can reply, "You have never been young in the world I am young in."

Family Problems and What to do About Them. Wallace Denton, The Westminister Press, Philadelphia, 1971.

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Economic Changes in the Family

While the American family was thus shaped to rural society, the uniformity of this adaptation the country over should not be exaggerated, even for the colonial period when more than nine of every ten persons lived on the soil. Almost from the start there were cities in the land, which, however few and small, nevertheless were focal points for innovation and change in the culture, and therefore in the family as well. The impact of urbanization upon American society is sometimes assumed to be largely contemporary, but in fact colonial cities very early developed an urban way of life and constantly diffused new ideas and artifacts to their hinterlands.[20] As centers of trade they contained stores and market places where goods could be bought. In them, too, gathered skilled artisans and apprentices in sufficient numbers to perform numerous tasks which farmers elsewhere had to do for themselves. The establishment of shops and mills followed upon the advent of these craftsmen and increased the volume and variety of products locally available. Thus the standard of living rose in the cities, and wealthy families, some possessed of fortunes assembled in New World commerce, developed genteel family practices. Urban residents organized formal social clubs and societies, founded schools, increased church activities, and fostered urban forms of recreation. These expanded undertakings enabled city people to secure more and more of the necessities of life as well as social diversions outside the home, and so reduced their economic and social dependence upon family members.

These urban influences were extended to other parts of the country as population multiplied and found its way westward. On each new frontier the colonial experience tended to be reenacted: first, farms were established on which the family was self-sufficient, with family members or local craftsmen fabricating a large variety of artifacts; later these home manufactures were reduced or eliminated when finished articles became available for purchase in nearby, newly founded cities. By the time that the last frontiers were being settled, after the middle of the nineteenth century, the industrial development of the country was already so advanced that the first stage of this progression could be and was largely skipped. Thus, in farm as well as urban families, although much less drastically than in the latter, some productive functions were already being withdrawn from the family by these years.

After 1840 the economic expansion of the country quickened when its economy shifted from merchant to industrial capitalism through the successive application of factory production first to textiles, then to iron, clothing, boots and shoes, guns, dressed meats, and eventually to innumerable other commodities.[21] Industrial capitalism underwent a rapid acceleration following 1870 and achieved the economic exploitation of the entire continent in the next few decades. During this period machine technology was established in most existing industries and extended to new ones, the nation's natural resources were mapped and brought into development, new forms of fuel and power were discovered, and rail lines were extended to every region of the country, opening them to settlement. By the turn of the century the economy had advanced into a next stage, that of finance capitalism, when supercorporations came to dominate industry, and persons or institutions of colossal wealth, in turn, to control them. Labor began also to organize in these years and to pit its strength against organized business. Then last, compelled by two world wars and the protracted depression of the 1930's, the federal government has increasingly intervened in the economy to control and aid industry and labor alike, and to safeguard their interests in a world become perilous to them. With these actions and others since then, a complex interrelation of government, industry, and labor has been forged into the present economic structure.

These massive events, a full account of which is beyond the purview of this study, brought great concomitant changes to the family.[22] For with them there began in earnest those shifts in its economic practices which were earlier noticed for the English family. Their effect was to displace the family from its economic base by transferring its productive functions from the home to industry and to make its maintenance thereafter dependent upon the outside employment of its wage earners. Thus, except perhaps on farms, the considerable self-subsistence of the family and its character as a cohesive economic group passed away. After this, family members could no longer participate in the work which their male heads performed somewhere in the fabric of industry, nor could they continue self-employed except in the routine, unpaid chores of the household. The conditions of employment, too, became considerably changed for family workers and far beyond their powers to control. They toiled for hire at jobs and in places determined by business management. Their types of employment, while infinite and diverse in nature and by no means confined only to factory or shop, were uniformly characterized by specialization of function, constant supervision, insecurity of tenure, and money wages. Because the costly and complicated machinery of production had to be assembled in one or a few places, cities became the almost universal domiciles of the new economy. Once cities possessed large industries, they attracted still other businesses and manufactures to them, and expanded into metropolitan concentrations of people and indus-

tries. Family members had to live in these urban communities crowded together in such residences as they could buy or rent, and find friends and associates from among multitudes. In cities the support of families upon the often meager wages earned by their employed members, paid for work performed and without reference to family responsibilities, was sometimes difficult and onerous. Similarly, the insecurity of employment and utter dependence upon the job to keep the family alive and intact became often haunting in its distresses.

Industrial enterprise did not alter only the physical environment of the family, however. It reached into the home as well and wrought great changes therein, many of great benefit to members by increasing their material comfort. Economic productivity increased so much that housewives were provided with a constantly increased supply and variety of consumers' articles made available to them in a range of accessible prices. Also, stores and shops offered cheap and efficient specialized services, such as home deliveries, baked goods, laundry, and ready-made clothes, which displaced one after another productive function which still remained in the home. The expansion of such services keeps on, and each year the range and novelty of their offerings widens. Industrial inventiveness still further modified the home by mechanization of tasks of its physical care. With considerable ingenuity manufacturers devised appliances which reduced the drudgery and tedium of housework, or made more efficient such operations as the cooking and preservation of foods. These household improvements arrived gradually before the present century and their scope can only be glimpsed today in recently constructed costly houses.[23] They are available in sufficient volume and scale of prices so that not even the poorest home is without some of them. Still other improvements have come in the heating and lighting of houses and in their provision with running water and interior plumbing. In recent years telephone and radio communication, and now television, have been brought into the home, and have been adopted by families at every income level.

In addition to these modifications of its habitat and circumstances, there were still other economic changes in the family, more subtle in their nature but quite as profound in their consequences. Family solidarity was considerably affected when parents could no longer employ their own children in farm or other family enterprise or place them in an occupation in their communities. Instead the latter had now to find their own jobs in industry, and to make their way in these as individuals as best they could. Their success in employment became dependent upon many factors, such as the decisions of management and imponderables of the economic system, and therefore much beyond the mere consideration of their own abilities. Parents could, to be sure, keep their children in school, procure them advanced vocational training, use influence to get them their first jobs. But thereafter, unless they were rich or influential, they could not further considerably promote the economic mobility of the children, nor were other family relationships ordinarily of important account to the latter either.

The ability of adult family members thus to hold jobs in industry gave them relative financial independence of parents or other relatives and bred economic individualism in them. Sons and daughters were enabled to free themselves from strict control by their elders and to rebel against other family restraints which appeared irksome to them. Similarly, wives could better resist the domination of husbands when they had a separate source of income. The individualization of family wage earners was further increased by the fact that on the job each participated in a work community whose members and practices the others in the family could not know except casually or vicariously. Each also underwent some amount of different occupational conditioning of his life and manners. This caused at least some dispersal of their interests and affiliations, which later on, when children were married and established in their diverse employments, often led to divergences in their personalities, class position, place of residence, and friends. As a result they tended to drift apart from each other and so to reduce their common family sentiments. Kindred were separated and winnowed in this same way, and the obligations of kinship therefore contracted.

Women's status in family and society was especially benefited by these economic developments. The availability of employment provided them a means of independent subsistence and reduced or removed male suzerainty over them. Even when they did not work they could use the possibility of a job as an alternative to the first and even second marriage proposal which came to them, and particularly to the vocations of housekeeping and child care which hitherto had been almost their only destiny. Their economic position was being concurrently strengthened during these years by state legislatures, it will be recalled, which replaced many of their common-law disabilities with numerous statutory rights, including retention of their own earnings. In turn these advances became the basis of much other amelioration which has since come to women and has resulted in their substantial freedom in the society.

Children, too, were considerable beneficiaries of the economic development of the nation. The constantly increased productivity of the economy made it possible for the society to afford the child's removal from the labor force during his growing years, and to provide him with increased rights and opportunities appropriate to childhood. Economic utility of children, except on farms, has therefore dwindled considerably, and child-labor laws exist to preserve the new situation by prohibiting their premature employment in industry. More children attend school for a longer time now, and they are brought up more indulgently in their families than was formerly possible. They are no longer hurried into precocious adulthood, but instead preferably retained in a prolonged childhood and allowed to mature gradually according to their advancing age and sex grades.

The American Family in the 20th Century. John Sirjamaki. Harvard U. Press, Cambridge, 1959.

INSTRUCTIONAL SEQUENCE
Packet III

ADMINISTER THE PRE-TEST AT THIS TIME.

Behavioral Objective Number

Concept I:

1 A. Explain to the students who are working on this activity that this is a hypothesis. We are trying to test whether or not the family is being replaced by society in terms of traditional family responsibilities. This is an activity which probably should be assigned as homework because of the quantity of time required to complete it, and the fact that most of the activity requires the use of a telephone.

After the students have completed the activity, collect their answer sheets, observe the answers, and give the papers back to the students. These papers should be kept by the student, not only as a reminder, but as a study sheet for the packet test. The teacher should make a list for himself of about ten of the various groups, taken off of the student's answer sheets. The teacher can then use this for future reference and testing.

Concept II:

2 A. You will probably do this as a class activity, but it can be done in student groups if there is a student chairman. Each student is to read aloud his list after all have been completed. One student should be at the board recording the activities of the two groups. (Record only those which haven't been previously mentioned.) When the two columns are completed, it should be obvious that those who lived in high density areas had a greater variety and longer list of activities in which to become involved.

B. This activity, like previous ones, is aimed at having the student think about the hypothesis that the family is no longer the primary place for socialization. Obviously, the lists which you receive will vary. Check each list over for validity and make sure the student has legitimate groups and the general purpose of each group. Return the lists after checking them.

Some types of groups that you probably should look for are:

School Organizations	Out of School Organizations
Clubs	YMCA & JCCA
Varsity Athletic Teams	Athletic Teams
Speech & Drama	Social Clubs
Debate	Charity Work
Intramural	Jobs
Student Council	Hospital Volunteering
Tutoring Staff	Religious Worship

Behavioral Objective Number

Concept II Optional Activities:

3 C. If any students do this activity, be sure to recommend that as part of their research for this activity they refer to Families in Crisis. This book points out that the family is still important to the teenager, but that families 50 years ago were much "closer knit" than they are today. The family 50 years ago was almost the entire source of social activities while today, very little is done by the teenager with his family.

These ideas should be looked for in the students' report. Other ideas are fine, but the teacher should encourage the student to look at the topic from the angle of change in the family and to what extent population increases might have effected the change.

3 D. This activity is self explanatory. Another suggested method for doing this activity might be to have some of the reports presented to the class followed by a short class discussion analyzing the reports. Some questions that could be posed to the class are:

1. In what ways is organization "X" replacing the family, in terms of traditional family functions?

2. Has the "mass population" forced the family members to seek socialization from members of society other than his family?

These types of questions (and others you may wish to choose) are open-ended and require opinion type answers. The object of the activity is to get the student to consider what is possibly happening to the family structure.

3 E. This activity should be brought to the students' attention early in the unit. This will allow the displays to be up during the discussion of this packet. This is a must if the full thrust of the unit is going to be developed!

Also, consult your principal about possibly putting some of the bulletin board displays done by your students in the main building display cases or on its bulletin boards.

3 F. The teacher in this activity need only to be careful to find out as much as possible about any film suggested by a student. Previewing the film would be the best approach.

Be sure to see your building AV Coordinator at the beginning of the unit and explain that you may need a 16 mm projector for a week at a time.

Any films should be shown only to those who desire to see them. It is not mandatory for all students to see every film on organizations outside the family.

Behavioral Objective Number ___ Concept III Required Activities:

A. This project involves the research technique of content analysis. Students will investigate what mass media has to say about various role relationships in the family.

Except for assigning and explaining it, this project can be done outside of class. If desired, however, you could take class time to have students share their findings after they have completed the project.

To carry out the project, arrange for each student to choose one of the three family role relationships he would like to research (see Data Sheet #1). Then have each student select one of the mass media listed (see data sheet) to use as a source for his data. You should stress to the students that they attempt to obtain as broad a sample as possible. For example, if a student were using men's magazines, he should try to examine a number of different men's magazines rather than just different issues of the same magazine. The larger and broader the sample, the more valid the data will be.

Give the students some time to collect their data, perhaps three days to a week. If you allow each student to choose any one of a variety of methods for writing up his project (a song, a poem, a picture, a newspaper editorial, etc.), you will get some interesting papers.

The term "content analysis" involves the counting of the number of times a given word, stereotype, attitude or value appears in a given context. This method is most commonly used to analyze the content of the mass media. For example, a sociologist might want to make a study of the number of advertisements for a particular kind of product appearing in a selected group of magazines. He would conduct a content analysis by counting the number of ads that promote a particular kind of product.

Finally, the suggested questions for the students to consider are aimed at showing the uncertainty of family norms and roles in the eyes of the media and people in general. You may choose to have the students think about other questions as well, if you wish.

B. Your only instructions to the student in this activity should be to tell the student to try and get a random sample in the ten females he choose to interview.

You might suggest the following questions for the student to use in his interviews:

1. Do you have a job?
2. What is your "role" in life, as you see it?
3. Are you content playing this role?
4. Would you act the same way if you had a job/were a housewife (depending on the answer to question 1)?

Behavioral
Objective
Number

C. When you carry out the debate in this packet, be sure to do the following:

1. Assign a team to each side (pro and con) of the issue.
2. Make sure each team has a chairman who will do the speaking for the team (all members do debate research prior to debate).
3. Have no more than five people on a side.
4. Consult your drama or speech teacher for more specifics.

D. The object of this activity is to show that an increase in people has created a necessity for kinds of jobs for women. Have this activity done in groups of 7 to 9, so one personnel man won't be "bugged" three or four times.

Some companies that probably have changed in the types of jobs they offer women are:

Bell Telephone
Union Electric
Famous-Barr
Stix-Baer & Fuller
Ira E. Berry, Realtors

Whatever companies are contacted should have been in business for at least 20 years, and preferably 30 or more. This will allow for the student to have more graph data.

The graph the student does should have one axis called "years" and numbered 1910, 1920, 1930, etc. The other axis should be "Number of Different Jobs for Women" and numbered 1, 2, 3, 4, etc.

E. Preview the film "Women Up in Arms" and decide what approach you wish to use with it. You emphasize that an increased population density has had an affect on liberating women.

Obtain the film through County AV, SA, BW, 28 minutes.

The film depicts many of the social and cultural changes taking place in Tunisia, e.g. westernization of dress, inroads of popular music, coed schools, etc.

Collect Data Sheet #2 checking to see that the student has indeed found three groups that could be considered women's lib. Some possible answers are:

1. N. O. W. (National Organization of Women)
2. National Women's Caucus

This could be used as a short quiz if desired.

G. Be sure the student has surveyed at least ten males for this activity (object is to see if a "mass society" has caused children to gain a

Behavioral Objective Number

broader "worldly" sense and consequently, become more rebellious to the ideas of their parents). Some questions for the students' survey might be:

1. How old are you (the older and more experienced parent, the better)?
2. Have you found a reduction in the authority you exercise over your children in the past couple of years?
3. If so, why do you feel this has taken place?
4. Are you an urban or rural resident?

H. This activity is aimed at showing the change in modes of discipline within the family over the last 50 years. Exposure of both parents and children to more ideas, the mass media, etc. (all synonomous with more people) probably has changed family philosophies about discipline, role relationships, etc. Make sure the student compares and contrasts.

I. This activity is a good means for students to express their views of the changing roles in the family.

Allow three or four people to a skit and give everyone a chance to take part. A skit need not be longer than 15 minutes. It is expected that many of these might be humorous.

J. Activity J is self explanatory. Make sure the student interviews adults (over 30). He may use any approach for his interview (phone, in person, etc.) but should ask the question, "What should a father be?"

Again, when the student hands in his comparison between the skit and tapes, he should offer his opinion as to whether an increased population density has changed the father's role.

K. Self explanatory - just follow student directions and collect the data sheets which you distributed.

L. This is another activity aimed at simply having the student consider the changing role of the child in the family. In this case, we are dealing with the area of assuming responsibility. This activity will help the student to see that he has accepted responsible jobs, duties, and positions much earlier than kids of years ago. Some examples the students may cite may be:

1. service organizations
2. driving to school
3. opening a savings account at the bank

M. This should be another "fun" activity and it is highly recommended. This will be a way for the teacher to see how the student views himself in his family setting.

Behavioral
Objective
Number

The discussion on these cartoons should include the following questions:

1. What does this cartoon say?
2. What role does Johnny feel he plays in his family?
3. Is this similar to your role in your family?
4. Do you think young people always had this family role?
5. What is responsible for your being placed in this role?
6. Are roles changing?

Hopefully, students will mention the idea that perhaps the mass society (more people) and its overpowering aspects (communication, technology, mass media, etc.) is responsible for affecting family life and the roles within the family.

ADMINISTER THE POST-TEST AT THIS TIME

TEACHER BIBLIOGRAPHY-PACKET III

BOOKS

1. Breasted, Mary, Oh, Sex Education,Preger Publishers, New York, 1970.

2. Denton, Wallace, Family Problems and What to do About Them, The Westminister Press, Philadelphia, 1971

3. Fletcher, N., Whats Right With Us Parents, William Morrow and Co., New York, 1972

4. Osborn, F. (Ed.), Our Crowded Planet, Doubleday and Co., Garden City, New York, 1962

5. Siryamaki, John, The American Family In the 20th Century, Harvard Press, Cambridge, Mass., 1959

FILMS

1. "Women Up in Arms", County A-V, SA BW 28 Minutes.

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ENVIRONMENTAL ECOLOGICAL EDUCATION PROJECT

Parkway School District
Chesterfield, Missouri

DR. WAYNE FICK, Superintendent
VERLIN M. ABBOTT, Project Director

UNIT: POPULATION
Packet III

The work presented or reported herein was performed pursuant to a Title III ESEA Grant administered by the Missouri State Department of Education.

SETTING

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Only about 10% of the population of the United States does not live in some type of family setting. Most of us obtained our first social experience from the family. For many Americans, the family is the only true primary group that they experience in a world filled with bureaucracy. In fact, the family is the institution which Americans are least likely to give up.

Yet, no one contests the fact that family life in America has undergone tremendous changes in recent years. Though the family has been affected by population increase, urbanization, and industrialization, this packet attempts to show those affects which have come about or are related to population increase. Because of this particular element, we find family responsibilities changing. The world of the child is being opened more to out side influences, and the roles of the mother and father are changing to meet a society more densely populated and filled with a multitude of new attitudes and mores. Exactly how population increases have changed one of America's most important institutions from authoritarian in scope to equalitarian in nature, is the focus of this packet.

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CONCEPTS AND BEHAVIORAL OBJECTIVES

I. Certain family responsibilities, such as sex-education are becoming functions of society.

1. The student will be able to name four organizations and/or public institutions in St. Louis County which have made sex-education a greater part of their program during the past ten years.

II. As a result of increased population density, the teenager has more oppprtunity to become involved in activities outside the family.

2. After examining a list of teenage activities outside the family (as performed in different locales), the student will be able to draw a conclusion, in a short paragraph, on the effect population density has on his opportunity to become involved in activities.

3. The student will be able to list five possible organizations or groups in which he can participate without his family.

III. The role of each family member changes as a result of the increase in population.

4. Given statistical data showing increases in the amount of jobs available to women, the student will be able to write one paragraph stating conclusions about the role of the woman in today's family.

5. By the termination of this unit, the student will be able to write a short paragraph describing how the role of the father within the family has changed.

6. Considering the increased population, the student will be able to describe in a paragraph what part a teenager should play in family decisions.

You should take the pre-test at this time.

ACTIVITIES

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Behavioral Objective Number	
	Concept I Required Activities:
1	A. Contact several St. Louis County organizations or public institutions and determine at least four which have made sex-education a greater part of their program during the past ten years. The St. Louis County Health Dept., YMCA, Jewish Community Center, your church and the curriculum department of your school district can act as starting points in your search for this information. After obtaining four names, list under each on a piece of paper the age group (or groups) to which the organization makes its sex-education services available, and to what extent each organization has increased its sex-education program.
2	Concept II Required Activities:
	A. You and each class member will make a list of the social activities (or interests) which you now pursue or have pursued within the past two year period. The activities are to be those in which your other family members do not actively participate. Group the completed lists into two general areas: those belonging to students having lived or now living in high population density areas: those belonging to students having lived or now living in low population density areas. One of the class members should write on the chalkboard the results of this "activity poll." The best way to list the results on the board is to list in columns the activities mentioned by each group taking out any duplications. Then you will each write a paragraph, based on the differences you observed in the activities of the two groups as they relate to population density, and state a conclusion as to what affect you felt population density has on the opportunity to become involved in extra-familial activities.
3	B. List five school organizations and five out of school community type organizations in which you can participate without your other family members and indicate in a short sentence, the motive or general purpose of each organization. A good way to get started on your school organizations is to talk to one of the various club sponsors about the purpose of his club.
3	Concept II Optional Activities:
	C. Write or present orally with your teacher's consent, a one page typewritten report comparing the role that the family played in social activities for teenagers 50 years ago and the role which

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the family now plays in these activities. One good source of information is your grand-parents. Refer also to Families In Crisis, listed in the bibliography.

3 D. Choose one of the ten organizations which you named in the required activity (B) for Concept II and prepare a written report on that organization including purpose, cost of membership (if any), services available to its members and what motives you feel people might have for joining this particular group. Discuss in your report what effect you think the organization might have on its members.

3 E. Prepare a bulletin board display of one of the ten organizations named in the second required activity for Concept II. Use litrature from the organization and in your display, making an effort to give a fairly conprehensive picture of the services availble to members.

3 F. Contact one of your ten organizations and see if a free public service film on their group is available. if so, consult your teacher to see if the film may be shown to the class. When you chose an organization, pick one which the class is unaware of, or only vaguely familiar with.

4,5,6 Concept III Required Activities:

A. In this project, you will analyze the content of a particular medium to see how specific sets of role relationships are portrayed. Following the instructions on Data Sheet 1, choose a role relationship and then apply this role to one of the mass media listed below it. Examine your medium taking careful and specific notes of how the norms and role relationships are portrayed. Is the wife or the husband supposed to manage the finances? Finally, write a short paper containing conclusions on your findings, considering the results in relation to population increases.

4 B. In this activity, question at least ten females over eighteen about what they feel their roles in life should be. In a paragraph, state the differences you found in answers given by those females who have a job and those who are housewives.

4 C. Take park in a debate on "In Todays Society, a Woman's Place is in the Homes." If you are not familiar with the procedures on how to debate, see your teacher.

4 D. Based on information you obtain by contacting at least three personnel departments of various companies, construct a graph showing increases in different types of job openings for women. contact your teacher for more specific instructions (Do this in groups of 7 or 9).

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4 E. View the film, "Women Up in Arms" and in a class discussion, orally summarize the film and any implications you see for the role of the woman in the future.

4 F. On Data Sheet 2 list two women's lib groups in the St. Louis area and state your reason for labeling them as such. See your teacher for a copy of Data Sheet 2.

5 G. In this activity, you are to survey at least ten males who are parents and ask them if they have noted any change in their authority as a parent over the last couple of years. State your results in no more than five concise sentences.

6 H. Conduct a survey of ten people over age 30, asking "What happened to you if you were disrespectful to your parents?" Compare these answers to answers of at least ten people under age 18 and note any comparisons or contrasts in answers. Write a conclusion in a paragraph on this survey.

5 I. Take part in a small group skit and act out how you see the role of the father in a "typical" contemporary family.

5 J. After you have participated in the skit in activity I, tape record at least three opinions of, "what a father should be" from interviews with adults. A comparison should be made and differences possibly the result of population increases? Limit your answer to two sentences.

6 K. On Data Sheet 3 list at least three major family decisions of the last year and state what part you played in each decision. See your teacher far a copy of Date Sheet 3.

6 L. On the Data Sheet 4 give at least three examples of actions which require responsibility and at what age you have or have not done them. See your teacher for a copy of Data Sheet 4.

6 M. In this summary activity, you are to interpret your role in your family by means of a characterization or cartoon, and present these to other members of the class for analysis and discussion. (Consult either your teacher or an art teacher for ideas about social cartoons).

You should take the post test at this time.

DATA SHEET 1

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Procedure: You will analyze the content of a particular medium to see how role relationships are portrayed. Each of you will choose one of the following role relationships:

husband - wife
sibling - sibling (brother - sister, brother - brother, or sister - sister)

Then each of you will choose one of the following media:

men's magazines
women's magazines
family magazines
comic strips
television programs
magazine advertising
television advertising
advice columns

Examine your medium, taking careful and specific notes as to how the norms and role relationships are portrayed. For example, is the wife or the husband supposed to manage the finances? Who is responsible for bringing up the children?

Finally, consider what effect population increases could have on family role relationships. (Refer back to activity A for instructions as to how these questions should be answered.)

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DATA SHEET 2

On this sheet, list two groups in the St. Louis area which could be considered women's liberation groups, either beacuse of their make-up or the types of programs they conduct.

1. _____

Why? _____

_____

_____

_____

2. _____

Why? _____

_____

_____

_____

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DATA SHEET 3

On this worksheet, list at least three major family decisions of the last year and state what part you played in each decision. Consider if your increased contact with people has caused you to have opinions or ideas about family matters which may have influeneced your involvement in these decision.

1. Decision _____

_____

Your part: _____

_____

_____

_____

2. Decision _____

_____

Your part: _____

_____

_____

_____

3. Decision _____

_____

Your part: _____

_____

_____

_____

DATA SHEET 4

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On this worksheet, give at least three examples of actions which require responsibility and at what age you have or have not done them. Consider if you have demanded more responsibility at an earlier age than your grand-parents or parents, because of increased outside influences such as talking with more people, television, etc. If you feel these outside factors did influence you circle the yes at the end of each numbered section, if not, circle no.

1. Action of responsibility _____

_____

Age performed: _____

Yes No

2. Action of responsibility _____

_____

Age performed: _____

Yes No

3. Action of responsibilitiy _____

_____

Age performed: _____

Yes No

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Student Bibliography for Packet III Family Structures

Epstein, C. F. Woman's Place: Options and Limitis in Professional Careers, University of Calif., Berkley 1970. (general reference for this packet)

Underhill, Ruth M., First Came the Family, Wm. Morrow and Co., New York, New York 1968

FAMILY PLANNING
PACKET IV

CONCEPTS AND BEHAVIORAL OBJECTIVES
Packet IV

I. The limitation of family size is a controversial issue in man's society.

1. Given a statement in favor of limitation of family size, the student will be able to state at least two arguments (one paragraph containing no more than 50 words per argument) opposing this position.

2. Given a statement in opposition to the limitation of family size, the student will be able to give at least two arguments (one argument per paragraph of no more than 50 words) in favor of such limitations.

3. After being given information on family planning among Blacks, the student will, in not more than two paragraphs of not more than 25 words each, be able to state at least two views often expressed by Blacks concerning the limitation of family size.

PRE-POST TEST
Packet IV

Behavioral Objective Number	
1	1. "We are in the depths of a population explosion. We should limit family size to two or less children." State two arguments (one paragraph per argument and each paragraph no more than 50 words) opposing this statement.
2	2. "There is absolutely no reason, either ecologically or religiously, to limit family size." State two arguments (one paragraph per argument and each paragraph no more than 50 words) opposing this statement.
3	3. State in not more than two paragraphs of not more than 25 words each, two views often expressed by Blacks, concerning the idea of limiting Black family size.

ANSWER SHEET FOR PRE-POST TEST
Packet IV

1. Two arguments opposing limitation of family size:

   a. Religious arguments (God will determine who lives and who dies)
   b. Abortion is taking a life
   c. Any other arguments which can be substantiated with facts or expert opinion

2. Two arguments supporting limitation of family size:

   a. Food shortage
   b. Overcrowding
   c. Abortion is not taking a human life
   d. Sociologically, unwanted people create family crises, trouble, etc.
   e. Any other arguments which can be substantiated with facts or expert opinion

3. Two Black views about limiting family size:

   a. Blacks feel this is a "white plot" to exterminate Blacks
   b. It is needed to save the food supply
   c. It is needed because of the lack of adequate living conditions
   d. Any other arguments which can be substantiated with facts or expert opinion

BACKGROUND INFORMATION
Packet IV

Concept I

This is probably the most controversial packet of the course. However, one cannot study the area of population increase and its affects without spending some time on the issue of population control. The idea of controlling population is not a new one, but it is perhaps more controversial than most. Due to the controversy, we urge you to not only read the accompanying background material, which covers views on both sides of the issue, but refer to and investigate those sources listed in the Teacher Bibliography.

It should also be noted that after spending some time researching this issue, the writing team found it inadvisable to propose a concept which was position oriented. As a result, you will be dealing with a controversial issue that has expert opinions supporting both viewpoints. You will also be dealing with an issue that is value laden and which must be treated as such.

It is recommended that you emphasize and teach not for a solution to the controversy, but rather for the learning outcome that this controversy is an important ramification of population growth. Urge your students in doing the activities to arrive at a position and to defend that position.

The teacher, in preparation for this unit, should have some background knowledge not only of the arguments pro and con, but also of value analysis and how to deal with human values. Because of this, material on valuing is included in the following background. Please note the books listed in the Teacher Bibliography for this unit as well as those listed in Packet VI.

BASIC HUMAN VALUES

Harold D. Lasswell, of Yale University, determined that there are eight universal values or needs, wants, and aspirations prized in any culture or group.

These values, described below, are necessary for all human beings. If a human being is deprived of any one or more of these eight categories, he will have difficulty in any society, especially ours. Severe deprivation could result in mental illness or various delinquent types of behavior which could deprive him of a positive educational experience in school.

The eight value categories are described as follows:

1. Respect refers to the degree of recognition given to, or the degree of discrimination against, people in their capacity as human beings; it includes concern for authority, flag, country, peers, adults and self.

2. Will is the ability to provide for one's needs adequately; to develop talents that increase one's productivity to appreciate and care for material objects with which one comes into contact.

3. Power refers to participation in decision making that affects self and group values; it refers to development of leadership and scholarship talents.

4. Enlightenment is the process of improving one's ability to make intelligent decisions in a problem-solving situation, of understanding abstractions and mastering problem-solving techniques.

5. Skill is the development of productive talents and social, communicative, physical, mental, and aesthetic areas.

6. Rectitude is the degree of concern one has for the welfare of others and the degree of responsibility one has for his own conduct in association with others.

7. Well-being refers to the mental and physical health of the individual, and to his attitude toward fitness and his ability to participate effectively in physical activities.

8. Affection is liking others and being liked--feeling love and friendship for persons in primary and secondary relationships. In this context, primary relationships are those involving one and another; secondary relationships are those between an individual and an institution or group.

FAMILY PLANNING

by Joseph M. Krebs

Dr. Krebs is associate professor of gynecology and obstetrics at St. Louis University Medical School. He has addressed the Missouri State Medical Association on family planning.

Attempts to deal with the fecundity of the human being are as ancient as history itself. The recognition of the cyclic nature of fertility in the female is itself also ancient. In Genesis 18, Abraham and Sarah are extending hospitality to two strangers, one of whom proves to be Yahweh. This guest states, "I shall visit you again next year without fail, and your wife will then have a son." The text goes on to say, "Now Abraham and Sarah were old, well on in years, and Sarah had ceased to have her monthly periods. So Sarah laughed to herself thinking, 'Now that I am past the age of childbearing, my husband is an old man, is pleasure to come my way again?'"

St. Augustine castigates the Manichaeans of his day as doing grave wrong by utilizing their imperfect conception of a "safe time," because of his idea that sexual intercourse without the possibility of procreation was very wrong. He felt the only excuse for this relationship between man and woman was reproduction of the species.

In the book *The Infertile Period*, a classic in reproduction physiology as it was known up to 1962, Hartman states that investigators in Germany and France discovered in the 1840s that female dogs, which have a bloodstained vaginal discharge when they are in heat, ovulate toward the end of this period. Since women also bleed periodically, he points out, it was natural to assume, in the absence of data to the contrary, that they must also ovulate at the time of bleeding.

The modern basis for our more correct understanding of the limited fertility of the female was reasoned independently by two observers separated by a vast number of miles across the earth. Ogino in Japan and Knaus in Germany in the 1930s determined the time of ovulation to be within a certain time period which could be sometimes ascertained by thorough study of the menstrual pattern. Since their scientific breakthrough, little additional *significant* information has been forthcoming, although many efforts to improve the pinpointing of this phenomenon have been attempted.

The crux of successful practice of periodic continence is the precise knowledge of when the woman ovulates. John Rock admonishes, because so many failed to consider, "that the time of ovulation is no way effected, much less determined, by a preceding menstruation, which of itself has nothing to do with ovulation."

Unfortunately we cannot *predict* this transient episode of monumental import with any degree of accuracy. For practical purposes, our recognition of the event even after it has taken place is proved scientifically only by the occurrence of a pregnancy. Ovulation has been observed in the human but it is, of course, impractical at the present time to observe this with each cycle.

We are dependent today on the recognition of many probable signs of ovulation. Some of these are better than others and some have received wide acceptance. All of them add up to only a degree of reasonableness which falls short of certainty. Because of this, rhythm or periodic continence remains an unpredictable and unreliable and altogether vexatious answer to the struggling couple confronted with the need for fertility control. Often the very anxiety state which results from the precipitating factor, plus the realization of previous failures, makes the hypothalamic control of ovulation even more uncertain.

Despite the limitation of family planning by traditional Catholic teachings to this device; despite the fact that Pius XII exhorted scientists to make "this licit method" more reliable to those who need it; despite the fact that there are five Catholic medical schools in this country, not one of these has published the results of any research which would throw light on this tormenting problem. There has been a paucity of Catholic publication in scientific journals to really evaluate periodic continence in its reliability for couples restricted to its use.

Reports by others found in the literature indicate that rhythm is approximately comparable to the effectiveness of the various mechanical methods. All are familiar with the lack of protection offered by these means on occasion.

And yet there are many popular articles by enthusiastic members of the laity, professional medics, and clerics which intimate that rhythm is a successful alternative to means which are considered of dubious morality at present. The experience of most couples practicing periodic abstinence is that it is very difficult, not at all consistent with their natural rhythms for expressing mutual love, and, worst of all, unreliable.

Prior to the middle of this century, regulation of conception was feared to be a form of hedonism. The main factor causing the Church to review her concept of conjugal morality seems to be the hard fact of population density. There has also been a recognition in medical disciplines that pregnancy is not exactly a normal state of the female. She is known to at least experience an altered physiological response during this time. Certain disease processes in the female are recognized by conscientious practitioners as contraindications to further pregnancies. The dependence on such an uncertain means as capricious as rhythm is inconsistent with reason. The alternative of total abstinence, as the only means of conception control, is without compassion. Heroic practices are always to be admired. Are they to be demanded?

It is recognized that *all* couples practice periodic continence from sexual relations from time to time, even those whose moral consciences permit absolute contraception. In times of fatigue, illness, absence from the partner, these episodes of abstinence are accepted without question. Periodic continence, too, can be practiced by many, particularly those willing to make sacrifices for their own and mutual betterment. But to be surprised by a pregnancy after resolute periodic continence is unacceptable to most Catholic couples. It is particularly cruel on the part of many medics and clerics to intimate that this pregnancy would not have occurred if this couple had only followed the rules.

Many couples stanchly and honestly maintain that rhythm works for them, and they fail to understand their friends who speak of failures. While these couples are successfully enjoying their relationship, it is probably due to their sexuality, mutually agreed upon, with relations two or three times a month. Such couples probably would never need rhythm to limit their family size; this degree of sexual exposure is known to result in low fecundity.

Not all or even most couples can restrict their mutual giving of one another to this degree of frequency. Most doctors are well aware of some family situations where this exposure rate is forced by one partner on another. The Church has always opposed such restrictions unless by mutual consent.

Periodic continence will be successful in postponing, for a greater or lesser period of time, a pregnancy in couples who are motivated to studying very carefully the menstrual cycle, in all of the parameters known today, and who are willing to make sacrfices and restrict their natural expression of conjugal love. Periodic continence will not offer any degree of certainty to those women who have a more urgent or definite need for having no more pregnancies.

If periodic continence were more reliable, there seems to be little doubt that it would be one of the most widely used methods in the world. Many people would be able and willing to refrain from relations for a reasonable period of time. Considering the vagaries of human ovulation, as we know it today, the hopes for such reliability are not foreseeable in the near future.

Practically all of the mechanical, chemical, and medicinal methods of conception control, albeit more reliable, have their disadvantages in aesthetics, anxiety over side effects, complications, and consequences.

Many considerations are used in judging available methods of conception control. These will include, among others, patient acceptance, ease of employment, moral connotations, and degree of protection inherent in the method. If this latter criterion is the one of greatest concern, then oral ovulatory suppression is the first choice.

This is not to say that the anovulants represent a panacea for all

the world's problems with overpopulation. Fertility control per se will not automatically feed or clothe or adequately house the great masses of underprivileged throughout the world. The use of anovulants still requires a degree of mental concentration which is difficult to follow by many of these unfortunates.

However, when the consequences of the anovulants are not feared by the patient or her husband, and when she is reasonably motivated to follow relatively simple instructions, she is rewarded with practically 100 per cent effectiveness. The evolution of newer pills has greatly reduced the incidence of side effects. Still many patients and/or their husbands remain concerned by all the articles appearing in communications media which speak of the uncertainty of consequences and side effects.

This anxiety is strange in view of the widespread usage of these agents. Such acceptable medicaments as aspirin, penicillin, and others are widely accepted without reservations, despite the knowledge they have indeed caused mortality as well as morbidity.

Most side effects of the anovulants are well known and are usually accepted by the patients; few have been found to be serious. In the women in whom pregnancy itself would cause hormonologic damage, the pill is very apt to mimic this problem, usually though to a less serious degree. Diabetes is said to be such an example and should be watched for. It is, of course, easier to stop the pill than the pregnancy it is given to forestall. The consequences of the pregnancy must in each instance be weighed against the consequences of the pill. . . .

Family planning is now established as an aspect of medical practice that has assumed its place of importance because of the needs of patients. Catholics are likewise interested in limiting their fertility potential. They hope to do this in accordance with moral principles. The preoccupation with the fear of hedonism that prevented theologians from understanding the true conjugal relationship is now fortunately on the wane. The laity must become more articulate in expressing what the marital relationship means. Together with professionals, the laity must help to form a conceptualization of what the vocation of marriage really signifies.

The papal commission formed by good Pope John and continued and enlarged by the present Pontiff is testimony of the desire of the magisterium to review attitudes held for centuries but based on biology poorly understood.

If Catholics are to be limited to the practice of periodic continence, as we now know it or can expect it to work in the foreseeable future, little control of fertility can be expected. The anovulant pill, despite a great deal of debate regarding side effects and potential dangers of prolonged usage, has enjoyed general acceptance by patients and doctors alike.

Family Planning in an Exploding Population. John O'Brien, Hawthorne Books, Inc., New York, NY, 1968.

BIRTH CONTROL: THE ONLY ANSWER

by Raymond Ewell

Dr. Ewell is vice-president for research, State University of New York at Buffalo. A chemical engineer by original training, he is an economist by professional evolution. He has been a consultant to several United States government agencies, international organizations, and foreign governments. His conclusions on the population problem are based on observations in most of the countries of Asia and some in Africa and Latin America over the past twenty-six years. He is particularly familiar with conditions in India, Pakistan, the Philippines, and Egypt.

More information on fertility control, or birth control to use a more direct term, is needed so that men and women all over the world can plan the number and spacing of their children—sensibly, safely, and certainly. The vast majority of the married couples in the world today do not know how to plan the number and spacing of their children. They simply do not have the information on how this can be done. Even in the United States literally millions of married couples do not have this information. And yet surveys have shown that most married couples in many countries would like to be able to plan the number and spacing of the children they have.

There are many personal reasons for this desire. Economic reasons predominate, but there are also psychological, medical, and other reasons. Most couples get married because they want to have children, but there are good and sufficient reasons why most couples want to limit the number and plan the spacing of the children they bring into the world. This is the personal, human reason why more information on birth control is needed.

However, in a broader social and political context, more information on birth control is needed because:

1. The world is running out of space, i.e., good-quality living space
2. The world is running out of food.
3. The world is running out of fresh, drinkable water and even running out of fresh air fit for breathing in many areas.
4. The world is using up its irreplaceable resources at rapidly increasing rates.
5. The increasing population densities of many countries, including the United States, are causing many social problems of steadily increasing magnitudes.

During the past year we have heard an increasing amount of talk and publicity on many problems associated with our increasing population in the United States—increased crime, juvenile delinquency, water pollution, air pollution, urban deterioration, noise, dirt, waste disposal, racial friction, and others. Increased population is not the sole cause of these social problems, but in all cases it is a major factor.

But even these problems, which seem important to us in the United States, fade into relative insignificance compared to the food problem faced by many countries. The very real threat of mass starvation within the next ten to fifteen years hangs over the 2.5 billion human beings of Asia, Africa, and Latin America. *This is the biggest, most fundamental and most nearly insoluble problem that has ever faced the human race.* And it is a problem with definite implications and responsibilities for the medical profession.

The world food problem is of such staggering proportions and such complexity that it is difficult to grasp it until one has observed it and studied it over a period of time. Moreover, it is almost impossible to understand this problem unless one has spent at least some time in Asia, where poverty and undernutrition reach their greatest depths. Starvation is not a problem in the United States, nor will it be for the foreseeable future, nor is it a problem in Europe, the Soviet Union, Canada, Australia, or New Zealand. But it is a very real problem in most of the countries of the three poor continents of Asia, Africa, and Latin America. The populations of these continents are growing rapidly, at the highest growth rates in history, and the production of food is lagging behind the population growth. This is the problem in a nutshell.

If present trends continue, it seems likely that famine will reach serious proportions in India, Pakistan, and Communist China in the early 1970s. Indonesia, Iran, Turkey, Egypt, Brazil, and several other countries will follow within a few years. And most of the other countries of Asia, Africa, and Latin America will fall in this category by 1980. Such a famine will be of massive proportions affecting hundreds of millions, possibly even billions, of persons.

If this happens, as now appears probable, it will be the most colossal catastrophe in history. It would be a completely new situation in the world's history—not enough food for the billions of human beings inhabiting the surface of this globe. This would be the Malthusian doctrine finally coming true after 170 years.

In my opinion, the food/population problem will be the overriding problem of the last quarter of this century. I anticipate that it will completely overshadow such political problems as Vietnam, Cuba, the Congo, Kashmir, Berlin, and others, which loom so large at the present time. The political and economic consequences of widespread famine in Asia, Africa, and Latin America are certain to be massive and far-reaching. *It seems unlikely that stable governments can be maintained in countries where a large part of the population is starving.*

In order to emphasize how explosive the "population explosion" really is, let us consider three dates—1830, 1930, and 2030. The population of the world in 1830 was approximately one billion, a hundred years later in 1930 it was two billion, but if present population growth trends should continue, the world's population in 2030 would be fourteen billion. Let me repeat, if present population trends continue, the world would have a fourteen billion population in the year 2030! The year 2030 may seem a long time off, but most readers of this book will have children and grandchildren living in 2030. Obviously there will be many changes in the world's social structure before 2030, and frankly I doubt if the population of the world will ever reach fourteen billion—as a result of starvation if for no other reason. But the possibility that there might be fourteen billion people in the world in 2030 is something to think about.

However, let us get out of the realm of fantasy and focus on reality, namely, on the year 1980; 1980 is a year that is just around the corner when you think back to 1950, which seems only yesterday. The population of the world in mid-1965 was about 3.4 billion and growing at about seventy million per year. In the fifteen years between 1965 and 1980, the world's population will increase by at least 1.2 billion—from 3.4 billion in 1965 to 4.6 billion in 1980. This population growth is almost a certainty—in fact, it could be even greater. The mothers who will bear these children are already here.

Most of this tremendous increase in population will occur in Asia, Africa, and Latin America, in fact, about one billion out of 1.2 billion. Only 200 million of this increase will occur in North America, Europe, the Soviet Union, and Oceania, i.e., the parts of the world which are now developed and well-fed. The fifteen-year increase in Asia, Africa, and Latin America will more than equal the total population of the developed countries today.

Based on the trends of agricultural development of the past five years, it is my belief that Asia, Africa, and Latin America will not be able to feed one billion more people by 1980, even at the present low levels of nutrition, to say nothing of providing them with clothing, housing, education, transportation, and the other minimal amenities of modern life.

While the populations of Asia, Africa, and Latin America have been increasing steadily and rapidly, food production in these continents has not been keeping up with the population growth, particularly during the past eight years since 1960. During the decade 1950 to 1960 food production in all three of the underdeveloped continents made fairly good progress, running somewhat ahead of the population growth. But since 1960 there has been an ominous slowing down in food production while the populations have continued to increase at an even faster pace.

Without going into detailed statistics, the general picture is that

since 1960 food production in Asia, Africa, and Latin America has been growing at rates of 1 per cent to 2 per cent per year while populations have been growing at rates of 2 per cent to 4 per cent per year, leaving a gap of over 1 per cent per year. The disparity varies a great deal among the ninety countries of Asia, Africa, and Latin America. The disparity between food production and population growth has been particularly acute in Latin America where food production per capita on the average has declined nearly 10 per cent since 1960. The disparity is somewhat less for Asia and Africa, but it is a serious problem in all three continents.

If these trends continue for the next ten to fifteen years, mass starvation will inevitably result, and this would be famine on a scale never before experienced in the world's history. There have been many famines in history involving millions of people, but none involving hundreds of millions of people. Not only will such famines be widespread, but they will be persistent and probably get worse year by year. It is hard for us sitting in rich, comfortable, overfed America to realize that the greatest disaster in the history of the world is just around the corner.

All these problems resulting from large increases in population can be solved by science, political action, and money. Food production can be increased, water and air pollution can be reduced, urban deterioration can be corrected, and hopefully even the social problems can be improved—through the application of science implemented by political action and money. But all these things take time. They can't be done overnight or in a few months or even in a few years. *Time is the crucial factor.* And time is what the world does not have.

As a result of the rapidly increasing populations in Asia, Africa, and Latin America—and also in the United States—these technical and social problems are developing and multiplying faster than they can be solved. Many billions of dollars will be poured into trying to solve these problems in the next decade, but they will not be solved unless the rate of population growth can be reduced. In fact, the problems may get worse in spite of the billions of dollars put into trying to solve them.

This is where birth control comes into the picture as the only hope of preserving social and political stability on this planet. Lower birth rates are needed in most of the world in order to give science and society time to solve these multiplying problems. Neither science nor politics nor money nor religion, powerful forces as they are, can solve these problems unless there is time.

In fact, it may already be too late for birth control to have any real impact on the impending world food/population problem which seems likely to reach crisis proportions within the next ten years. Only a really massive application of birth control in most of the countries of Asia, Africa, and Latin America within the next few years could have a major effect in reducing the severity of the impending food/population crisis of the 1970s.

India is undoubtedly the most vulnerable country in the world today. India's population in 1965 was nearly 500 million—more than North and South America put together—and India will increase her population by at least 200 million more people in the next fifteen years if present birth rates continue. In my opinion, India cannot possibly feed 200 million more people by 1980, even at the appallingly low nutritional level now prevalent in India. India could feed 200 million more people by 2000, maybe even by 1990, but not by 1980. There are many reasons for this, too complex to review in this paper.

The United States is now sending more than a billion dollars' worth of food to India per year and that is all that is keeping India from starvation today. We will have to send much more in the next few years. And there are many other countries which are almost as close to starvation as India. But the great American food surplus is nearing an end. The population of the United States is increasing at over three million per year, and the increasing demands of our own population plus commercial exports will reduce our food surplus to zero in only a few more years under existing agricultural policies. We will soon have to make every effort to increase U.S. agricultural production to a maximum. It is fortunate that we have this possibility, although the potential for increased production is limited. Again we need time.

In the long run birth control is the only answer. Death rates will continue to decline in all countries, unless mass starvation or large-scale war intervenes. Therefore birth rates all over the world must decline or these problems will continue to get larger and more insoluble. As far as food supply is concerned, I put 1990 as the outside date at which mass starvation can be avoided in Asia and Latin America even by the most optimistic improvement in agriculture, if present birth rates continue. And this could be extremely optimistic. Pope Paul's statement on this subject to the United Nations on October 4, 1965, was, in my opinion, ill-advised and based on misinformation. Pope Paul's advisers obviously do not understand the facts of world agriculture and the limited possibilities for rapid increases in agricultural production in the less developed countries.

Unfortunately, it seems unlikely that birth control can have a major impact on birth rates in Asia, Africa, and Latin America before the 1980s. And these continents will probably be in the grip of widespread starvation before then. Nevertheless, the sooner the vulnerable countries get started on serious programs to reduce their birth rates, the better. The world food shortage in the 1970s may be disastrous, but in the 1980s it may be catastrophic.

This is a world-wide problem, and therefore I suggest that all countries in the world, with only a few exceptions, should take steps to reduce their birth rates below twenty per thousand and their population growth rates below 1 per cent per year. Most of the countries of Europe and also Japan already have done this, principally through the application of contraception and abortion as methods of birth control. The United States needs to reduce its population growth rate below the present rate of 1.7 per cent per year because we are literally running out of good-quality living space.

Most of the countries of Asia, Africa, and Latin America now have population growth rates of 2 per cent to 4 per cent per year, and these rates must be reduced because their primitive agricultures and low levels of education cannot keep up with such high population growth rates. Only a few countries such as the Soviet Union, Canada, Australia, Argentina, and South Africa have the resources to continue to tolerate population growth rates over 1 per cent per year for more than a few more years.

My conclusion therefore is that the quality of life will decline in most of the countries of the world unless birth rates are reduced—and this includes the United States. In the more vulnerable countries, continuing high birth rates will cause increasing poverty, mass starvation, and political instability in the next ten to fifteen years. Birth control is the only answer.

Family Planning in an Exploding Population. John O'Brien, Hawthorne Books, Inc., New York, NY, 1968

The Encyclical

After continued hesitation, Pope Paul finally decided to end nearly a decade of indecision and to issue a statement on contraception, abortion and sterilization. In composing this document he chose to listen to a small group of ten conservative advisors who surrounded him in the Vatican, largely ignoring the majority opinion of the commission. Setting aside their recommendations, the Pope issued his seventh encyclical on July 25, 1968, and it was released to the world four days later.

This thirty-eight page document, *Humanae Vitae*, instantly became the most unpopular encyclical ever to have been written by any Pope in history. Though in the past there had been dissent over other papal rulings, never before had it been so widespread, so vocal, or threatened so imminently to crack Catholicism wide open and cleave the Church into schismatic shreds. The question was whether the Church was protecting the moral tone of its people and preventing them from living sinful lives, or whether, with new advances in science and new economic and social problems, it was maintaining outmoded attitudes and beliefs.

The text of the encyclical notes the new changes which have taken place in the world, the growth of world population, the economic costs which make educating a large number of children difficult, the changed status of women in society, and the value of love in marriage. It acknowledges that sometimes heroic sacrifices must be made in order to follow Church doctrine. The encyclical asks the same question the world is asking. Has the time not come for a revision of this doctrine? "Could it not be admitted that the intention of a less abundant but more rationalized fecundity might transform a materially sterilizing intervention into a licit and wise control of birth?"

The answer it gives is that the teaching of the Magisterium "is founded upon the inseparable connection, willed by God and unable to be broken by man on his own initiative, between the two meanings of the conjugal act: the unitive meaning and the procreative meaning." The encyclical declares abortion, even for therapeutic reasons, illicit as a means for regulating births, and also sterilization for contraceptive purposes, and any other practice which makes procreation, "man's most high calling to parenthood," impossible. The encyclical then explains why avoiding births by rhythm is acceptable, while avoiding them by artificial means is not, and never will be.

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Now some may ask: In the present case, is it not reasonable in many circumstances to have recourse to artificial birth control if, thereby, we secure the harmony and peace of the family, and better conditions for the education of the children already born? To this question it is necessary to reply with clarity: The church is the first to praise and recommend the intervention of intelligence in a function which so closely associates the rational creature with his Creator; but she affirms that this must be one with respect for the order established by God.

If, then, there are serious motives to space out births, which derive from the physical or psychological conditions of husband and wife, or from external conditions, the church teaches that it is then licit to take into account the natural rhythms in the generative functions, for the use of marriage in the infecund periods only, and this way to regulate birth without offending the moral principles which have been recalled earlier.

The church is coherent with herself when she considers recourse to the infecund periods to be licit, while at the same time condemning as being always illicit, the use of means directly contrary to fecundation, even if such use is inspired by reasons which may appear honest and serious. In reality, there are essential differences between the two cases: In the former, the married couple make legitimate use of a natural disposition; in the latter, they impede the development of natural processes. It is true that, in the one and the other case, the married couple are concordant in the positive will of avoiding children for plausible reasons, seeking the certainty that offspring will not arrive; but it is also true that only in the former case are they able to renounce the use of marriage in the fecund periods when, for just motives, procreation is not desirable, while making use of it during infecund periods to manifest their affection and to safeguard their mutual fidelity. By so doing, they give proof of a truly and integrally honest love.

GRAVE CONSEQUENCES OF METHODS OF ARTIFICIAL BIRTH CONTROL

Upright men can even better convince themselves of the solid grounds on which the teaching of the church in this field is based, if they care to reflect upon the consequences of methods of artificial birth control. Let them consider, first of all, how wide and easy a road would thus be opened up toward conjugal infidelity and the general lowering of morality. Not much experience is needed in order to know human weakness, and to understand that men — especially the young, who are so vulnerable on this point — have need of encouragement to be faithful to the moral law, so that they must

not be offered some easy means of eluding its observance. It is also to be feared that the man growing used to the employment of anticonceptive practices, may finally lose respect for the woman and, no longer caring for her physical and psychological equilibrium, may come to the point of considering her as a mere instrument of selfish enjoyment, and no longer as his respected and beloved companion.

Couples are directed to master their own emotions and observe a period of continence when the woman is fertile. This discipline, "far from harming conjugal love, rather confers on it a higher human value."

Rulers are urged not to "allow the morality of your peoples to be degraded; do not permit that by legal means practices contrary to the natural and divine law be introduced. . . ."

As for the developing countries which have serious population problems, "No solution to these difficulties is acceptable which does violence to man's essential dignity. . . . The only possible solution to this question is one which envisages the social and economic progress both of individuals and of the whole of human society. . . ."

Thus, the Church had recapitulated the traditional Augustinian view that sex must be regulated with strict laws. And if these laws are not followed, the woman becomes nothing more than "a mere instrument of selfish enjoyment." The Church had responded to outside challenges by reiterating its own beliefs.

Fron Now to Zero. L. A. Westoff, Little Brown and Co., Boston, 1968.

THE AGONIZING CHOICE

by

N. St. Stevas

In the New Testament the emphasis is upon the law as the law of love. Virginity is exalted but the New Testament also contains a high doctrine of marriage. St Paul, for example, emphasises its holy state, and compares the union of the spouses with the relationship of Christ to his Church.[2] Furthermore it is stated in the Epistle to Timothy that woman will be saved through 'childbearing'.[3] Certainly no clear condemnation of contraception can be found in the New Testament and any such condemnation has to be induced by inference.

It should be remembered that the pagan world in which the infant Church found itself was one of lax moral standards, widespread sexual perversions and promiscuity. Christian reaction to this decadence and permissiveness was to proclaim strict sexual standards. At the same time there was a reaction against promiscuity within the pagan world itself. The Stoics, for example, emphasised the need for the rational control of sexual desires. Christianity adopted this Stoic attitude and baptised it in order to meet the objections of the Gnostics who were hostile to all forms of procreation. If the Church Fathers stressed the importance of procreation in sexuality, it was not for imperialist reasons but as a means of avoiding sexual excesses. Christianity also reacted against the low value placed upon human life by many in the pagan world. Medical knowledge did not allow for a clear distinction between contraception and abortion and contraception accordingly was often denounced as a form of homicide. Indeed St John Chrysostom in a sermon delivered about the year 390, declared that contraception was worse than murder. 'I do not know what to call it,' he declared, 'for she does not kill what is formed, but prevents its formation.'[1] St Jerome also castigates contraception as a form of murder.[2]

ST AUGUSTINE

It was St Augustine, however, who formulated the Christian attitude to contraception which was to have such influence on succeeding generations of theologians and writers. St Augustine was the doughtiest opponent of the Manichean heresy which dismissed the world as wholly evil, but in some ways he never fully escaped from his own Manichean past. He further suffered from guilt over sexual matters arising from the illicit union which he enjoyed outside of marriage for many years until he was separated from his lover by the influence of his mother, Monica. St Augus-

tine roundly condemned all forms of contraception, including the use of the sterile period. In his book *The Morals of the Manichees* he writes: 'Is it not you who used to warn us to watch as much as we could the time after purification of the menses when a woman is likely to conceive and at that time refrain from intercourse, lest a soul be implicated in the flesh? From this it follows that you consider marriage is not to procreate children, but to satiate lusts. Marriage, as the marriage tablets themselves proclaim, joins male and female for the procreation of children. Whoever says that to procreate children is a worse sin than to copulate thereby prohibits marriage; and he makes the woman no more a wife but a harlot, who, when she has been given certain gifts, is joined to man to satisfy his lust. If there is a wife there is matrimony. But there is no matrimony where motherhood is prevented; for then there is no wife.'[3]

[1] Homily 24 on the Epistle to the Romans, p. 60: 626–7.
[2] See Noonan, op. cit., pp. 100–1.
[3] *The Morals of the Manichees*, 18.65, pl. 32:1373.

In his letter against Faustus written in 400, Augustine repeats his condemnation of contraception.[1] In his book on marriage *The Good of Marriage* written in the same year, St Augustine gives a more positive teaching on marriage and upholds it as an actual good. The triune ends of marriage are set out as offspring, fidelity, and solemn obligation. (Proles, fides, sacramentum.) He does not, however, make any reference to love between husband and wife. Refraining from the sexual act is held out as a good, and spouses improve themselves by abstention by mutual consent. St Augustine treats intercourse without a procreative purpose as a sin. Nevertheless, he allowed one spouse to give a response to another even though the intention of the demanding spouse might not be procreative. Such a response was not sinful since it was required in returning the conjugal debt. In other circumstances sexual intercourse undertaken for mutual enjoyment would be sinful.

St Augustine's thought on sexuality was clearly inadequate, and in parts actively misleading, but it would be virtually impossible to overestimate the influence of his thought on the Church in the West. In *Marriage and Concupiscence* he explicitly condemns contraception in words which influenced subsequent writers for centuries and also played a part in the formulation of canon law. 'It is one thing,' writes Augustine, 'not to lie except with the sole will of generating: this has no fault. It is another to seek the pleasure of the flesh in lying, although within the limits of marriage: this has venial fault. I am supposing that then, although you are not lying for the sake of procreating offspring, you are not for the sake of lust obstructing their procreation by an evil prayer or an evil deed. Those who do this, although they are called husband and wife, are not; nor do they retain any reality of marriage, but with a respectable name cover a shame . . . sometimes this lustful cruelty

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or cruel lust, comes to this, that they even procure poisons of sterility, and, if these do not work, extinguish and destroy the fetus in some way in the womb, preferring that their offspring die

[1] 'They take wives according to the laws of matrimony by tablets announcing that the marriage is contracted to procreate children; and then, fearing because of your law, lest they infect a particle of God with the foulness of their flesh, they copulate in a shameful union only to satisfy lust for their wives. They are unwilling to have children, on whose account alone marriages are made.' (*Against Faustus*, 15.7.)

before it lives, or if it was already alive in the womb to kill it before it was born.'[1] St Augustine is saying that unless there is a subjective desire to procreate there is venial sin in sexual intercourse, and if procreation is positively and objectively excluded then the sin becomes mortal. He does not, however, condemn contraception as homicide and distinguishes between abortion and contraception. St Augustine clearly regarded sexual intercourse with suspicion, treating it as tainted by concupiscence and needing to be justified by procreation.

CATHOLIC THOUGHT AFTER AUGUSTINE

St Augustine's view of the place of sexuality in marriage was developed over the following seven centuries by the monks. In the sixth century, for example, St Caesarius, who was both monk and bishop, was forthright in his condemnation of contraception. Another condemnation was provided by St Martin of Braga who died in 579. At Rome Pope Gregory the Great (590–604) developed an austere doctrine on marital intercourse. Pope Gregory was of the opinion that pleasure in intercourse constituted a minor sin. 'This pleasure cannot be without fault, for not of adultery nor of fornication, but of lawful marriage was he born who said, "behold I was conceived in sins, and in delights my mother bore me".'[2] Pope Gregory did not explicitly condemn contraception as such, but the condemnation by implication is clear. The monks exercised their influence through the Penitentials, works made up of lists of sins together with the penances prescribed for them. Contraceptive acts are always treated in the Penitentials as being serious sins. These books exercised considerable influence, but they did not constitute part of the official teaching of the Church.[3]

A new stage was reached with the publication of Gratian's compilation of laws in 1140, which contained an explicit condemnation of contraception. Gratian's work, known as the Decretum, became part of the basic canon law of the Church.[4] Ecclesiastical

[1] 1.15.17. [2] Epistles II.64.

[3] On the other hand it should be noted that medieval medical writers gave contraceptive remedies in their books mainly without comment. Some of them afterwards became bishops, e.g. Arandel of Chichester.

[4] *The Decretum*, 2.32.2.7. 'They are fornicators not spouses who procure poisons of sterility.'

emphasis on the importance of procreation in marriage was in part a defence against the views of the Bogomils, who opposed procreation, and whose views on sex were similar to the Manicheans, and in part a reaction to the Troubadors who exalted love between man and woman and separated it from marriage. In the thirteenth century Raymond of Pennaforte compiled a collection of decrees under papal direction which became the basis of canon law in the Catholic Church for the following seven centuries. His compilation contains an explicit condemnation of contraception: 'If anyone to satisfy his lust or in meditated hatred does something to a man or a woman or gives something to drink so that he cannot generate, or she conceive, or offspring be born, let hem be held a homicide.'[1]

By far the most influential writer of the thirteenth century was St Thomas Aquinas (1225–74) whose thought on contraception ranks with that of St Augustine in the influence it exercised over the Church. St Thomas discusses and develops the idea of the natural law, and it is against this background that his thought on sexuality must be considered. For St Thomas the natural law is that part of the law of God which can be known by human reason. Man is a rational being and is able to order his inclinations by reason so that they accord with the will of God. By reason he perceives that sex is intended for the conservation of the species so that it is wrongly used when this purpose is frustrated. Any act of sexuality not directed towards generation is wrong as a sin against nature.[2] St Thomas reinforced this general and abstract view of the purpose of sexuality with a very particular but equally abstract notion about the nature of male semen. Semen, St Thomas points out, is necessary for generation, and exists for the purpose of continuing the race – semen thus has a special significance and any misuse of it is gravely sinful. He goes so far as to maintain that in this class of sin only murder is worse because murder destroys actual human nature, whereas misuse of seed destroys human nature in potential.[3] Rigorously applying this principle, he concludes elsewhere that masturbation is worse than fornication or adultery since in the latter whatever the social effects generation

[1] *Decretals*, 5.5.12. [2] See *Summa Theologica*, 2.2.154. 1 and 2.
[3] *Summa Contra Gentiles*, 3.123.

is not *ipso facto* excluded.[1] St Thomas's whole approach is concerned with human nature, not with human beings as such, and the personal factors of love and affection are barely considered any more than they are in the thought of St Augustine. The purpose of insemination is all important. From this starting-point, he goes on to draw conclusions about the right mode of sexual union, the correct position of man and woman in the act of coitus, etc. – none of these should be altered by man at will.

St Thomas had emphasised the overriding importance of procreation in intercourse. Its intentional and objective exclusion was mortally sinful, and he held that to avoid venial sin in sexual union there must be at least some subjective intention of procreation. In the centuries which followed, the first position was maintained but the second was substantially modified. Professor Noonan selects the publication of Martin Le Maistre's book *Moral Questions*, as a turning-point. Le Maistre, a professor at the University of Paris, was born in 1432 and died in 1481, but his book was not published until after his death in 1490. In the book Le Maistre writes that 'not every copulation of spouses not performed to generate offspring is an act opposed to conjugal chastity. . . . I say that someone can wish to take pleasure, first for love of that pleasure, secondly to avoid tedium and the ache of melancholy caused by the lack of pleasure.' The view also gained ground and eventually became dominant that non-procreative use of marriage was lawful in order to avoid fornication. This view had been known in medieval times but had been supported by only a minority of theologians. Cardinal Bellarmine and other Jesuit moralists in the seventeenth century stressed that man's sexual tendencies were in themselves both natural and good, although they were marred by a tendency towards lust in the individual. These views did not go unchallenged, and the Jansenists, for example, insisted that intercourse was sinful if it was embarked upon with other than a procreative purpose. This latter view received support in Rome, and on 2 March 1679, the Holy Office under Innocent XI condemned the proposition that 'a marital act exercised for pleasure alone lacks entirely any fault and any defect'. The argument was continued at various levels, but by the

[1] *Summa Theologica* 2.2. 154.12.

mid-eighteenth century there was a widespread rejection of St Augustine's view that intercourse was only justified for a procreative purpose. This influence is seen in the writings of St Alphonsus Ligouri (1697–1787), who quotes in his book *Moral Theology* the view that there is no sin in intercourse 'to avoid danger of incontinence in oneself or one's partner'. He went on to state that it was clearly established that one purpose of marriage was to provide an outlet for the sexual impulse.

Despite these modifications, the condemnation of contraception as such remained. Indeed, the view that contraception was homicide was surprisingly revived in the Bull Effraenatam issued by Sixtus V in 1588. Fierce penalties were laid down in the Bull against those 'who proffer potions and poisons of sterility to women and offer an impediment to the conception of a foetus, and who take pain to perform and execute such acts or in any way counsel them, and the women themselves who knowingly and voluntarily take the same potions'. This Bull equated the use of contraceptives with murder from the point of view of canon law. The severity of this decree owed much to the austere character of Sixtus V, and it was revoked by his successor, Gregory XIV.

The traditional position might have been re-evalued had it been challenged by the Reformation theologians, but both Calvin and Luther on this subject, at any rate, held to the traditional views. Nor was there any pressure for reform coming from technological developments during this period. It is true that the sheath was developed during the seventeenth century, but no method of providing a cheap and efficient contraceptive was discovered. Nevertheless, by the second half of the eighteenth century there had been considerable shifts in the analysis of the evil of contraception. It was viewed, not so much as homicide, but rather as a violation of the general purposes of marriage. Moralists, like the Jesuit Paul Laymann, argued that contraception was prohibited for the practical reason of avoiding sexual excess, thus shifting the argument away from absolute to relative considerations.

The Agonozing Choice. N. St. John-Stevas. Indiana University Press, Bloomington, Illinois, 1971.

CONTRACEPTION KILLS PEOPLE

CERTAIN BLACK LEADERS have opposed the distribution of contraceptives to poor blacks as being genocide. Some Indians have similar feelings about foreign aid for family planning. The term "genocide" usually flips on the screen images of killing with swords, machine guns, or Nazi gas chambers. Does contraception kill? Used totally by everyone in a group, it could make that group die out as a group.

But also, contraception prevents a life from occurring. Enemies of abortion often say that it kills life; supporters of liberal abortion policies (and I am one of them) believe that the embryo or fetus is not a human being but a *potential* human being. Yet in a sense there is an underlying commonality to contraception, abortion, and infanticide—all prevent a potential life from developing. The condom catches in midstream the sperm, part of human life in that endless chain from parent to child to parent to child, and keeps it from going on to become a person. The rhythm method (when it works) also blocks a life from starting. Used persistently over the years, these methods mean that a couple can end up with at least one less child being born than otherwise would have been. If that were not the intention, they wouldn't be used.

One radical population halter has said, "Suppose I'm wrong and the problem is not as urgent as I'm saying it is; what has been lost?" A lot, according to economist Julian Simon; millions of people who would otherwise be born might be prevented from birth. Suppose the world could hold 8 billion and you froze population at 4 billion. To be sure, you could always change your mind a hundred years later, and growth would quickly climb on up from 4 billion to 8 billion and stay there more or less permanently. But in the century between, those other 4 billion that the earth might have held were not around and they can never be "made up" in the future. That is killing population! (If you don't like 4 and 8, substitute 15 and 30 or 1 and 2 or whatever you prefer.)

This is all very academic when it is someone else, but suppose that someone had been you. If the world had 2 billion people now (as H. G. Wells prophesied in his idealized *Shape of Things to Come*), approximately one of every two people now living wouldn't be here. That's okay if I'm one of those two grinding at a mill and the one chosen to enjoy the additional advantages of a less-crowded paradise. But what if I were the other guy?

Suppose it was me—suppose it was you—who was "prevented," who never got to see the early sunshine on green grass, bite into an apple, kiss a loved one, jump into a cool pool on a blazing-hot summer day. We don't mean die after knowing these things—which might seem worse—we just mean never exist to know them.

Many people try to laugh off this problem as ridiculous. I recognize that it is much more tragic and criminal to kill a living child or adult than to prevent conception. A life has started to experience, consciously, living and the world. A life has set up personality interactions with others, and social and perhaps economic responsibilities, which are cruelly bashed apart by death. But contraception does prevent life. Contraception kills!

Some have concluded that we must stop population growth in the U.S. immediately if not sooner because otherwise the per capita standard of living will have to go down. In our house we can't afford steak even as seldom as we used to, and in the future meat will probably become even scarcer, with more eaters and fewer animals. One car instead of two; multiple dwellings instead of traditional houses. Let's assume this to be an overall trend—more population means a progressively lower standard of living. Even if this be true, isn't it rather selfish for the fewer people to keep others from being born, just in order to have more possessions? Couldn't we do without an extra room or two and let a few more thousand people enjoy the sunshine? That fits right in with what many priests have been telling their congregations for years: have the extra children God wills for you and learn the Christian virtues of sacrificial sharing. To limit family size so you and your little brood can have more things is selfish.

Of course you can take that logic and keep right on running with it. Take an unthinkably poor family living in one of the hundreds of mud huts I used to pass on my bicycle every day as I went to work in Delhi. The children have no shoes, no medical care, no schooling, mud-caked rags—if anything—for clothing, survival nutrition. They defecate on the ground just beyond the hut. When the rains come, the burlap roof pours and the mud walls often slide down. Suppose that by avoiding additional children, parents could give the existing ones a little more. Would that be selfish? What if we could ask the potential child whose life might be eliminated by birth control in that mud hut. Wouldn't he want to live too?

Even if we knew that population growth would mean less sunshine, food, fresh water, and clean air per person, more disease, and shorter lifespans, the decision as to whether to have fewer people with a better life, or more people with less, would be a value judgment. This is what Simon meant when he wrote that science cannot tell us whether we have too big a population. At best it could only predict the results of having more people or less people, but we would have to decide on preference or on moral grounds—not scientific grounds—which set of results we preferred.

I once started out to try to find how common it is for people to truly, deeply wish they had not been born. The idea was to survey prisoners, hospital patients facing certain death, delinquents, slum dwellers, to see what proportion felt they wished they had never lived. I never got around to doing the research; my guess is that very few people would rather not have been. Even the man who commits suicide may be glad he got to live for a while, though he is eager, now, to die. A huge majority of those potential lives that birth control prevents must be people who, if they had the chance, would say they would rather have lived.

You can argue that everyone who might potentially live should have the right to live. Even the conservative Catholics don't go that far; when they use rhythm, even though it be after five children, they block out some potential lives, which is unnatural of them. Many Latter-Day Saints believe that there are souls waiting for bodies to be born into and hence it is their duty to provide bodies. (A recent editorial in a Mormon newspaper indicated that Jesus would come before the population problem got too bad—apparently there was, therefore, no need to worry about it.) Hindu teaching has sometimes been interpreted in a similar way—marry and start childbearing as soon as possible to help as many souls as possible along the round of transmigration. Most modern Hindus don't pay any attention to that.

But saying that we want a higher standard of living for India, and fewer Indians, is a choice to make with eyes wide open, for it means killing people in the sense of preventing potential lives. For my part I am quite willing to make that open-eyed choice, and my eyes are not even misty. People who are already alive and hungry and desperately poor deserve priority over potential lives. Of course my "fewer people better life" logic is appealing only within limits; at the logical extreme sits one man or perhaps one little group owning everything and enjoying everything, and we don't want that.

The reality problem, however, is not going to be Nobody with Everything, but Everybody with Nothing. If it were simply a choice for fat and pampered Americans to do without a little steak so more people could be born, the decision might be tougher. But such fortunate people are a tiny minority, carried on glittering palanquins above the stench and slime of the seething crowds. Most of the world is hungry and/or malnourished, and I do not hesitate to try to kill population growth by preventing lives. All this assumes the nice, obvious logic that population control will reduce misery—which may be wrong.

So far this chapter has shown an agonized concern

that contraception prevents life (and might have prevented mine). This may sound like conservative Roman Catholic talk, but it is not. If conservative Catholics consistently refused to use even the rhythm method and tried to let themselves have as many children as they could, then they could point at the rest of us as killing population. The rhythm method, used properly, is a theological trick you play on yourself. You say: "I won't use any contraception because that would interfere with heaven's natural plan that sex produces babies. I'll have only uncontracepted intercourse so sex won't be unnaturally prevented from its natural fruition. But I'll just happen to keep one eye on the calendar and have my natural unprotected sex at the time when it happens to defeat nature anyway." Of course theologians have answers for that, but you can't understand the answers. No, people using the rhythm method to prevent lives are killing population just as surely as others who use methods that work better.

Logically, Catholics who worry that abortion or "artificial" birth control kills life should be at least as concerned to prevent starvation and war. A pacifist stand would seem logical. But there are bishops who will bless battleships and bombers, though not birth control. We are more willing to turn our backs on the "natural" killings that population can produce by war or starvation than to push population control. Death by dramatic, obvious starvation means that we rush food and emergency supplies in; then we often forget. As long as people are statistically alive (not dead, that is), we do not worry about slow starvation, malnutrition, war deaths, or subhuman conditions produced by our failures to control births.

Contraception kills people in still another sense: that is what some people want it to do. The eminent psychoanalytic psychologist Flugel claimed, decades ago, that many people unconsciously equate contraception with killing, and that this attracts some people to it and makes others afraid to use it or advocate it (they are afraid of their own killer angers). A leading national official of Planned Parenthood once told me he felt that some women joined the Planned Parenthood local groups to stop what they saw as that horrible wave of poor and black babies. He deplored this.

There is a tendency for some middle-class people to think that other middle-class people have deep loves, fears, joys, tragedies like their own, but that lower-class people live a shallow, less-sensitive life, so that their deprivations and sorrows are less tragic and painful. Similarly, many Americans probably tend to see "the masses" in India or China as colorless cardboard silhouettes of life, feeling little and being born and dying like cattle. Such prejudiced attitudes may make it easier to decide that "blacks" or poor people in other lands need birth control, to see them as crowded masses of protoplasmic population, and to shrug indifferently if birth control programs must prevent many potential lives in these groups.

Middle-class people would typically like to see proportionately fewer poor people, Westerners fewer Asians, Asians fewer "foreigners," blacks fewer whites, and so on. My work once took me to a village that had been inhabited by Mohammedan families; when India and Pakistan split apart, Hindus from surrounding villages rose up and killed every person in the village. Mohammedans did the same thing to Hindu villages. If the UAR could find some way to get oral contraceptives secretly into the drinking water for all Israel, they would probably welcome that chance. There is some similarity between life-preventing contraception and killing.

But if it is true that some "birth controllers" in Planned Parenthood organizations or elsewhere favor birth control for racist reasons, this does not mean that the majority are motivated in this way, nor that the birth control leadership or organizations as organizations are so motivated. And even if everyone had this motivation, it doesn't mean that the results would be bad for, or unwelcome by, the poor and the blacks. It's usually a few attention-grabbing black male leaders who call birth control genocide. Research shows that poor, black housewives welcome birth control and black housewives are clearly eager to be relieved from the burden of unwanted babies, just as middle-class blacks and whites have been for decades.

What about the charge, then, that birth control made available to or pushed at blacks is "genocide"? If every family is free to have as many babies as it wants, and to use contraception and abortion when it wants, that is certainly not genocide. If whites are able to use contraception and abortion as they want but blacks cannot get these things, and as a result have more unwanted babies, that is not genocide either. But it is discriminatory, and it is the picture in the U.S.—or has been until yesterday. If one or two radical black leaders want contraception kept from black women so that they are forced to have more babies than they want in order to swell the proportion of blacks in the U.S., that is also discrimination.

If a law says no one, white or black, can have more than three children, that is not genocide though it may be a lot of other bad words. If the law says whites may have four children and blacks three, that comes closer to being genocidal.

I see little danger that the U.S. or any democratic or communistic government will use birth control in genocidal ways. Any radical population program will have to work out guarantees, agreed on by leaders of various groups in the nation or nations involved, to keep the relative proportions of major groupings from being deliberately cut down. The more real problem, one we face all the time, is that birth control cuts down on potential human lives—not particularly white or black or Hindu or Protestant, but lives in general. But in the long run, we must either prevent lives ("kill") or be killed.

How to Kill Population. Ed Pohlman. Westminister Press, Philadelphia, 1971.

Objectives of Value Analysis

JERROLD R. COOMBS

□ Having students analyse, discuss, and decide value questions, particularly those about which there is public controversy, has recently become the subject of renewed concern among social studies teachers. Despite their concern, many teachers cannot operate effectively in this area because of confusion and uncertainty. They are confused as to what, if any, legitimate educational objectives are to be obtained by such value analysis. This in turn produces uncertainty about procedures to be used by the teacher in directing value analyses, and about the means of evaluating student achievement resulting from such exercises. The purpose of this chapter is to make a start at clarifying the objectives of value analysis.

Some Preliminary Clarification

If we are to become clear about objectives, we must begin by being clear about the terms we use in talking about value analysis, particularly the term "value." Very often the term "value" is used in such a way as to be ambiguous. For example, in some contexts it may refer either to the things people hold to be of worth or to the standards by which people judge the worth of things. To avoid confusion we will use the term only in the phrase "value judgments." Value judgments may be defined roughly as those judgments which rate things with respect to their worth. The following statements express value judgments.

1. Nixon is a good president.
2. Washington is a beautiful city.
3. Capitalism is an efficient economic system.
4. War is mass murder.
5. The sinking of the *Titanic* was a disaster.
6. Proportional representation is an adequate way of giving voice to the will of the people.
7. The U.S. ought to stop testing nuclear weapons.
8. Presidents should be elected by direct popular vote.

Words such as "good," "beautiful," "efficient," "murder" are called "evaluative terms" or "rating terms" because they are commonly used to rate things with respect to their worth. The terms "ought" and "should" are also evaluative terms when they are used in prescriptive statements, i.e., statements telling us what to do. Such statements can be translated into statements containing more obvious evaluative terms. If some action ought to be taken or should be taken, then it is either right or desirable to take the action.

We will refer to the thing being rated in the value judgment as the "value object." Almost any sort of thing can be a value object. We evaluate physical objects, events, people, actions, institutions, and practices as well as classes of such things. In the statements above, Nixon, Washington, capitalism, war, sinking of the *Titanic*, proportional representation, testing nuclear weapons, and direct popular election of presidents are all value objects.

Value judgments may contain positive evaluations, negative evaluations, or neutral evaluations. For example, statements 1 and 2 express positive evaluations, statements 4, and 5 express negative evaluations, and statement 6 expresses a neutral evaluation. A positive evaluation places the value object high on some scale of worth, a negative evaluation places it low, and a neutral evaluation places it around the midpoint.

Evaluative terms vary with respect to how much they tell us about the value objects to which they are applied. Some evaluative terms such as "good" and "bad" tell us nothing definite about the characteristics of value objects, while other terms such as "murder" give us quite a bit of information. The judgment that Nixon is a good president tells us nothing definite about President Nixon. But the judgment that war is mass murder does tell us something about war, namely that it entails deliberate killing on a large scale.

One other feature of value judgments is worthy of mention. There are several different points of view according to which we assess value objects. We may assess a value object from an aesthetic, a moral, an economic, or a prudential point of view. Other points of view can be identified, but these are the most important.[1] In addition, we may make an overall judgment of the worth of the value object, taking into account various points of view. Some evaluative terms ordinarily are used to make assessments from only one point of view. For example, "beautiful" and "ugly" ordinarily rate things from an aesthetic point of view. "Efficient" rates things from an economic point of view. "Immoral" rates things from a moral point of view, and "wise" conveys a prudential rating. Most evaluative terms can be used with reference to more than one point of view. "Good," "bad," "desirable," and "undesirable" can be used to rate things from virtually any point of view. We shall have more to say about the various points of view in a later section of this chapter. We will be particularly concerned with the moral point of view since it is the one which causes most confusion.

Value judgments are diverse and complex, having many guises and many functions. What has been said so far is not meant to be an exhaustive portrayal of such judgments. However, it should help us avoid confusion in discussing the objectives of value analysis.

Values Education, edited by L. E. Metcalf, National Council for the Social Studies, Washington, DC, 1971

As our society enters the stage in which persons' physical needs are increasingly easily satisfied by an increasingly productive and efficient economy, other problems come into focus. One of these, already evident to many in the Western world, deals with the question of what to do with the extra time and energy left over after work is done. The problems older and younger people in our society have in confronting this question can be seen most dramatically. How pitiful is the older person left with time and energy but nothing to do with them. In a similar situation are those young people, perhaps the majority of them, for whom schoolwork and family life are not adequately fulfilling. And, is the situation different for the increasing numbers of housewives who kill time by running in circles? Devoting one's life to picking up the children after Cub Scouts only to deliver them to dancing class does not seem very satisfying to many. And what about the working man who finds his increasing leisure as much a burden as a blessing?

The problem is simply stated: What is to be done with one's life and force? Once a question mainly for philosophers, in these times of increasing complexity and change and abundance, it is a question that challenges almost all of us, although often we move through our lives unaware of it. This is its terrible power: it is a question that cripples us as long as it remains unanswered. A growing tragedy is that it is not usually even asked. Witness the teenager who does little other than escape to temporary, sometimes desperate, excitements. Witness the job-hopper who seems unable to find any work satisfying. Witness the student who daydreams, unmoved by the combined exhortation of teachers and parents and with an occasional threat from the principal thrown in. Witness, too, the successful adult who achieves what he was supposed to achieve only to wonder what it was all for: "If this is success, why did I want it?"

We would say that these people, and they are legion in our increasingly affluent society, may well suffer from unclear sets of values. Such persons seem not to have clear purposes, to know what they are for and against, to know where they are going and why. Persons with unclear values lack direction for their lives, lack criteria for choosing what to do with their time, their energy, their very being. It seems unlikely that animals other than humans can have values. It is one of our most precious potential gifts. Yet it seems increasingly apparent that all too few humans do, indeed, have clear values.

That is why we have written this book. It outlines a theory of values and a methodology for the clarification of values. It shows how to work with others so as to help them clarify their own values. It should be useful to persons of all ages and walks of life, but is directed most specifically to those who work professionally with children, such as teachers. It is an eminently practical book in that it shows how the theory of values operates and how procedures grow from the theory. Furthermore, the theory is set up in such a way that the reader can give it a test of his own.

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This can be, we feel, a very important book. The evidence already in shows that the reported procedures have helped many students change patterns of behavior that were characterized by apathy, drift, conformity, and underachievement. In different words, many students have been helped to become more purposeful, more enthusiastic, more positive, and more aware of what is worth striving for. This, of course, is the kind of behavior teachers and parents have wanted to promote for some time but, until recently, clear procedures based on adequate theory have not been available. It is hoped that the theory and the procedures discussed in this volume will help with this important, and gratifying, task.

Values and Teaching. Raths and Simon. C. Merrill Publishing Co., Columbus, Ohio, 1971.

INSTRUCTIONAL SEQUENCE
Packet IV

YOU SHOULD ADMINISTER THE PRE-TEST AT THIS TIME.

Behavioral Objective Number	Concept I Required Activities:
1, 2	A. The two arguments that the student's paper is most likely to include will be that of the Roman Catholic Church--anti-birth control and of course, pro-birth control due to over population. You may find that some students will get off on the topic of abortion and it would, therefore, be advisable to tell them at the outset to keep their arguments to the pro's and con's of birth control. Stress that abortion is a specialized means of birth control.
3	B. Two viewpoints should emerge from this activity as there are many Blacks today who feel that the present approach to birth control is nothing less than "Black genocide." Others, however, feel in agreement with present birth control propositions. The total percentage of Blacks who share the "Black genocide" sentiment was 28% in a recent survey. (But 47% of the Black males under 30 share the "Black genocide" theory.) Curiously enough, family size is more ideal among middle class blacks than among any other group regardless of race background. (By ideal we mean one child for each parent.) When you evaluate the student's paper, make certain that he has taken a position with some supportive thinking. References for his conclusions need not be required unless you feel it necessary.
	Concept I Optional Activities:
1, 2	C. These are some points which you might expect to find in this paper. It is generally agreed that there are two basic reasons why the birth control program has not been very effective in India. One is that it is so difficult to get the information out to people not living in the cities. The second, and perhaps the most difficult problem to surmont, is that of the Indian culture itself. In India, there is no old age pension. Therefore, the old must look to the young for support as they become aged. This support must come from sons, of course. If an Indian man has children but no sons, he feels obligated to continue having children until he has a son. He does not feel a sense of responsibility to the nation's birth control program until he has fulfilled his obligation to himself by having a son to care for him in his old age. Your students will find it probably more difficult to suggest a solution to this problem than to expose it. One solution might be to set up a form of an old age assistance program which could eliminate the dependence on sons in later years.

YOU SHOULD ADMINISTER THE POST-TEST HERE.

TEACHER BIBLIOGRAPHY
Packet IV

Metcalf, Lawrence E. (ED), Values Education. Washington, DC: National Council for the Social Studies, 1971.

Raths and Simon, Values and Teaching. Columbus: C. Merrill Publishing Co., 1966.

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ENVIRONMENTAL ECOLOGICAL EDUCATION PROJECT

Parkway School District
Chesterfield, Missouri

DR. WAYNE FICK, Superintendent
VERLIN M. ABBOTT, Project Director

UNIT: POPULATION
Packet IV

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SETTING

Perhaps the greatest impact of population increase has been in the area of family planning. A mass increase in birth rates has caused scholars as well as the average family man to give greater thought to the issue of whether or not there is a "population explosion" and, if so, is it the result of poor family planning. Consequently, this issue has become a controversy with opposing viewpoints becoming more prolific each day.

In this packet, you will be asked to arrive at some judgements about the issue of family planning. Is it the panacea for the ills that overpopulation has brought, or is it merely being used to draw attention away from social pitfalls such as poor management of natural resources and the demand for production of manufactured goods? It is a form of murder to allow abortion or are we saving the living by not allowing more people in the world? Is an unborn fetus a human life or merely an incomplete replica of human form? These questions should be answered in your own mind as you progress through this packet and search for the answer to "family planning" and its relation to an increasing population.

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CONCEPTS AND BEHAVIORAL OBJECTIVES

I. The limitation of family size is a controversial issue in man's society.

1. Given a statement in favor of limitation of family size, the student will be able to state at least two arguments (one paragraph containing no more than 50 words per argument) opposing this position.

2. Given a statement in opposition to the limitation of family size, the student will be able to give a least two arguments (one argument per paragraph of not more than 50 words)in favor of such limitations.

3. After being given information on family planning among Blacks, the student will, in not more than two paragraphs of not more than 25 words each be able to state at least two views often expressed by Blacks concerning the limitation of family size.

You should take the pre-test at this time.

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INSTRUCTIONAL SEQUENCE

Behavioral Objective Number	Concept I Required Activities:
1,2	A. Complete the following suggested readings on family planning: The World Population Dilema, pp 47-57, Who Shall Live? pp 9, 52, 95 and 105, Born To Starve pp 19, 97 and 139, Population Growth and the Complex Society pp 50-58, Population Control : Whose Right to Live pp 42, 48 and 54, Revolution in Birth Control Practices of U. S. pp 41-44, then prepare a paper on this topic. Summarize both viewpoints and present at least two arguments which you feel are supportive of each viewpoint. Then after analyzing these viewpoint arguments, state your personal conclusion with some supportive statements not previously used in your paper. This report should be a minimum of two typewritten pages (double-spaced) and should include two references from the bibliography for each opinion including your own.
3	B. After reading the information about Black viewpoints on family planning in the book "The World Population Dilema", write a report analyzing each position and then tell which one you choose to support. State the reasons behind your conclusion. You may elect an alternative position not presented in the readings.
1,2	C. Some persons believe that intensive birth control programs will be able to solve the population problem. Consider the effects of one program that has operated for 20 years in a nation that has no religious opposition to birth control. India began an intensive population limiting program in 1951. But, in spite of 6 million sterilizations, 3 million contraceptives, and a strong education campaign, India's population still increased 100 million in the last decade, (1960-1970), to a total population of 537 million. Prepare a paper in which you list some reasons which you feel may account for this, and tell how you might convince members of a nation such as India to adopt a birth control program. You'll find the following books helpful: The Silent Explosion by Appleman, and Population Growth and the Complex Society.

You should take the post test.

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STUDENT BIBLIOGRAPHY
Packet IV

Cutler, Charles L., Population Control: Whose Right to Live? Columbus: American Education Publications, 1971.

Hill and Wang, Who Shall Live? New York: Society of Friends, 1970.

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Tydings, J. D., Born to Starve. New York: William Morrow and Co., Inc., 1970.

CONSUMPTION AND ENVIORNMENTAL DECAY
PACKET V

CONCEPTS AND BEHAVIORAL OBJECTIVES
Packet V

I. Population increases cause a greater consumption of the natural energy resources which will result in their depletion and in the increased pollution of the environment.

Upon the completion of this packet the student will be able to:

1. ...list four natural energy resources and rank them according to their projected availability in future years.

2. ...write a one sentence statement concerning the relationship between population increases and the consumption of each of the natural energy resources.

3. ...list the pollutants and the forms of pollution each energy resource releases or causes to be released as it is consumed.

II. Population increases result in increased production of foods, including those rich in nutritive proteins, the production of which is accompanied by increased usage of ecologically hazardous chemical insecticides and fertilizers.

Upon completion of this packet the student will be able to:

4. ...list and rank a set of ten (10) protein rich foods in the order of increasing protein content.

5. ...sketch a graph which compares the growth of the U.S. population with the total production of protein rich foods.

6. ...write a short paragraph of no more than 50 words discussing at least three ecological side effects which accompany the use of chemical insecticides and/or fertilizers.

III. Population increases may result in increased use of certain manufactured goods, such as automobiles, the operation and disposal of which results in the increased pollution of the environment.

Upon the completion of this packet the student will be able to:

7. ...graphically depict automobile usage data and personal income data for the years 1950-1970.

8. ...analyze a set of graphs which plot auto usage, beef production and personal income, and write a one sentence statement which correctly identifies those factors between which a correlation appears to exist.

9. ...discuss in a paragraph of 100 words or less the ecological problems encountered in the disposal of worn out automobiles. The discussion should include the topics of recyclability, biodegradability, solid waste burnings, and landfill leachings.

THE PRE-TEST SHOULD BE ADMINISTERED AT THIS TIME.

PRE-POST TEST
Packet V

Behavioral Objective Number	
1	1. List the four natural energy resources and rank them according to their availability in years. The first having the shortest expected availability and the fourth having the longest expected availability. a. b. c. d.
2	2. List three natural energy resources and write a one sentence statement for each concerning the changes in population and the consumption of that natural energy resource. a. b. c.
3	3. Choose three energy resources and for each list at least three pollutants, forms of pollution, or other ecological effects which are released, caused to be released, or result from the use of the resource. A. 1. 2. 3. B. 1. 2. 3. C. 1. 2. 3.

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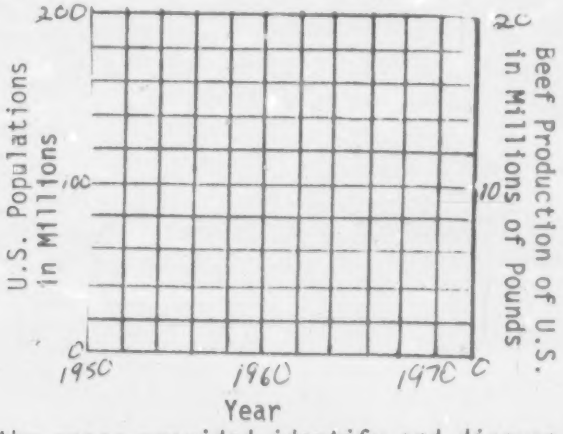
Behavioral Objective Numbers

4 4. List in the order of increasing protein content the five foods which are rich in nutritive protein.

a.
b.
c.
d.
e.

5 5. Graph the relationship which exists between U.S. population growth and production of a protein rich food. If no relationship exists, write NO RELATIONSHIP across the graph.



6 6. Within the space provided identify and discuss at least three ecological side effects which accompany the use of chemical insecticides and/or chemical fertilizers. Limit your discussion to a paragraph of not more than fifty words.

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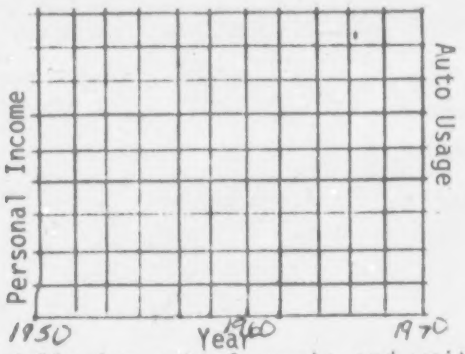
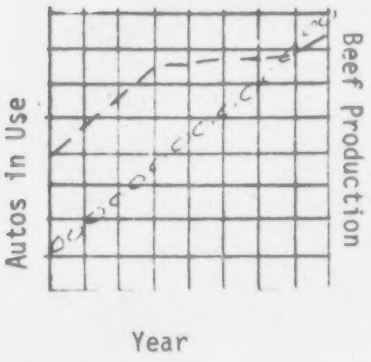
Behavioral Objective Number

7 7. Sketch a graph which correctly illustrates the change in personal income and the change in automobile usage in the U.S. for the years 1950-1970.

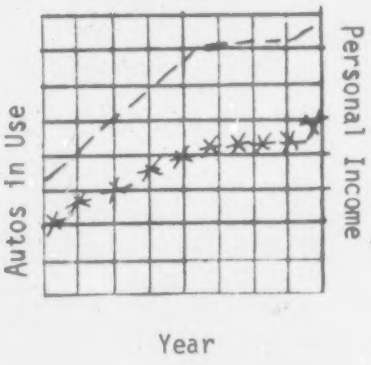


8 8. Analyze the following set of graphs and write a one sentence statement which correctly identifies the factors between which a correlation appears to exist.

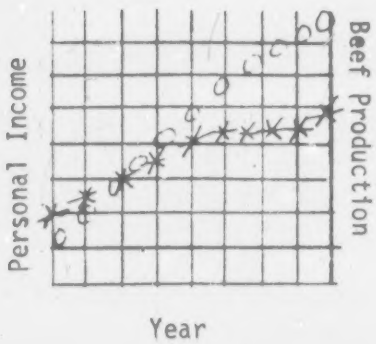
(A)



(B)



(C)



— — — Autos in Use

o o o Beef Production

* * * Personal Income

Behavioral Objective Number

9 9. Using the space provided below write a paragraph of 100 words or less discussing the ecological problems encountered in the disposal of a worn out automobile. Be certain to incorporate the following terms in your discussion: recyclability, biodegradability, solid waste burning, and landfill leachate.

ANSWERS TO PRE-POST TEST
Packet V

1. a. Natural gas and natural gas liquids
   b. Crude petroleum
   c. Coal and coke
   d. Uranium and thorium

2. Sample Answers

   a. For the years 1950 through 1970 the U.S. population increased by 35.4% and crude oil production increased by 78%

   b. For the years 1950 through 1970 the U.S. natural gas production increased by 350%.

   c. For the years 1950 through 1970 the U.S. coal production dropped off but increased again for a net change of 9.5%.

3. Sample Answers

   A. Natural gas and natural gas liquids
      1. Thermal pollution of the air cause updrafts above a city
      2. CO_2 (carbon dioxide) contributes to "greenhouse effect".
      3. CO (carbon monoxide) from incomplete combustion
      4. Radioactive isotopes of hydrogen
      5. Consumption of oxygen
      6. Release of water into the air
      7. Spills of natural gas liquids which vaporize and oxidize in the air
      8. NO_2 (nitric oxides) from internal combustion engines in which natural gas liquids are burned.

   B. Crude oil (petroleum)
      1. Oil spills
      2. SO_2 from combustion of sulfur containing fuel oils
      3. CO_2 (carbon dioxide
      4. CO (carbon monoxide)
      5. Nitric Oxides (NO, NO_2, N_2O_4)
      6. Hydrocarbon vapors
      7. Thermal pollution of air and water

   C. Coal and coke
      1. SO_2 (sulfur dioxide) from burning
      2. Soot (unburned carbon)
      3. CO_2 (carbon dioxide)
      4. CO (carbon monoxide)
      5. Thermal pollution of the air

   D. Uranium and thorium
      1. Radioactive waste products
      2. Thermal pollution of water and air
      3. Accidental loss of some radioactive isotopes

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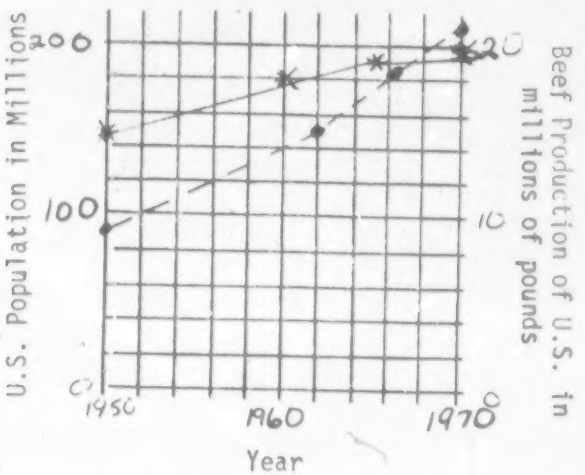
4. This list will vary. Refer to Activity II B in the Instructional Sequence for percentages of protein in various foods.

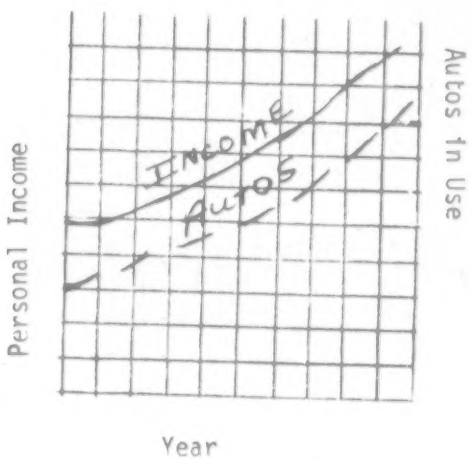
5. Sample Graph



6. The ecological side effects resulting from the use of fertilizers and insecticides include:

   a. Excess phosphates in lakes and streams which cause excessive growth of algae
   b. Nitrates and phosphates pass through soil profiles into ground water which is pumped up by wells for drinking water
   c. Chlorinated hydrocarbons used in insecticides are concentrated in the fat of mammals, eaten by man, and appear in mothers milk
   d. Chlorinated hydrocarbons get into streams, lakes, and oceans and finally become concentrated in fish and birds that eat fish, resulting in weak shelled eggs.

7.



8. In graph B there appears to be a definite correlation between the number of autos in use and the personal income of the U.S. population.

9. The paragraph written for this question can include many different ideas. The teacher, as in many of the questions on this test, will have to judge what a good answer should contain.

BACKGROUND INFORMATION
Packet V

This packet is composed of five basic student centered activities, none of which are prerequisites to the other four. Each activity is designed as a small group activity in which a group of students, through group and individual study, help each other to do the activity, achieve the objectives and learn the concepts.

The activities of this packet are challenging and will require a great deal of teacher support, but do not do the work for them. With a little starting help they should be able to proceed through the activity by themselves.

It is suggested, for reasons of economy of time and money, that different groups of students be started with different activities. There will, therefore, be less demand, at any particular time, for any one of the games or source books.

The activities of this packet will take the student from five to seven class days of concentrated effort. If you wish to cut down on the difficulty and the time factor, you can tell them exactly where to find the data in the Almanacs. This, however, will also cut out some of the fun by depriving them of the accidental, interesting discoveries they will make concerning many other related or unrelated aspects of human ecology.

In addition to the student readings, the following are suggested as background material:

The World Population Dilemma. Chapter Four, "Population Perspective," by Population Reference Bureau (This is a student text).

Population Resources Environment Issues in Human Ecology, by Paul and Anne Ehrlich, W. H. Freeman and Company, San Francisco, 1970.

INSTRUCTIONAL SEQUENCE
Packet V

Behavioral Objective Number

Concept I Activities:

1, 2, 3 A. Natural Energy Resources

Natural Gas Liquids
Natural Gas
Crude Oil Petroleum
Coal and Coke
Uranium and Thorium
Deuterium and Tritium

Natural Energy* Sources

Sun
Gravitation (Tidal)
Geothermal
Hydroelectric
Chemical
Nuclear

Source Material

Ralph E. Lapp, Science Teacher, May, 1973, pp. 29-34.

John M. Fowler, Science Teacher, December, 1972, pp. 20, 21.

The order in which these are listed is subject to discussion. It depends on whose projections you consult. Most projections include coke with coal and do not mention natural gas liquids.

*The natural energy sources are given here for your reference so you will be able to help students distinguish between sources and resources.

Composite of Energy Resource Data

U.S. Energy Resource "Production"

Year	Crude Oil Millions of Barrels	Natural Gas Liquids Millions of Barrels	Natural Gas Trillions of Cubic Feet	Coal Millions of Short Tons	Coke Millions of Short Tons	Uranium as U_3O_8 in Short Tons	Population in Millions
1950	1.974	182	6.28	560	72.7	---	151.3
1955	2.484	281	9.40	434	75.3	---	---
1960	2.575	340	12.77	527	57.2	---	180.7
1965	2.848	442	16.04	547	66.8	10,442	194.3
1970	3.517	606	21.92	613	66.5	11,810	204.9
% change	+78%	-232%	+350%	+9.5%	-8.6%	----	+35.4%

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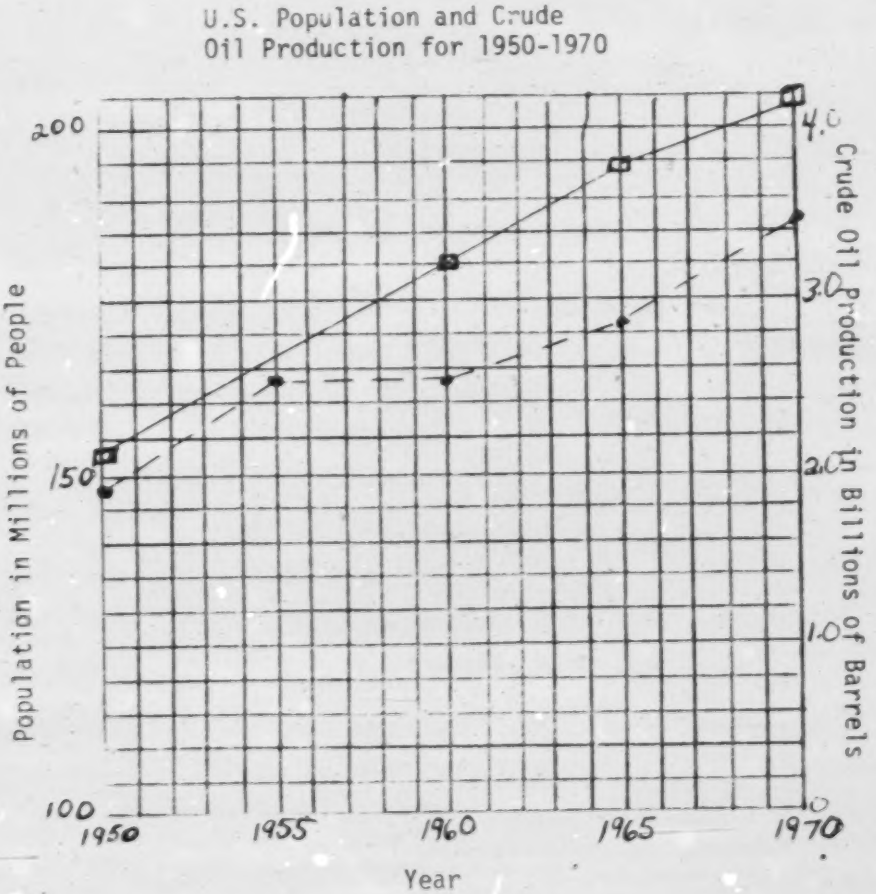
Source: The American Almanac, 1973.

Energy Resource	Table Number	Page Number
Crude Oil	1096	658
Natural Gas (Liquids)	1098	658
Natural Gas	1099	659
Coal		
Coke	1094	657
Uranium	1121	667
Population	12	12

Graph IA
Sample of student graph Activity I A



Comment: This graphing technique is used throughout this packet. It offers a means of comparing sets of data which may or may not be related. Since population data and resource "production" data are both available according to year, they can be compared on this type of graph. Technically speaking, the points on the graph should not be connected since they are discrete data. However, the lines

help to visualize the trends and to detect a correlation, or lack of a correlation, between the two sets of data which are plotted against the vertical axes.

Upon studying this graph of "U.S. Population and Crude Oil Production for 1950 through 1970" the student might correctly offer one or all of the following conclusions:

a. Both population and crude oil production increased for the years 1950 through 1970.

b. During the past ten years the population growth rate has decreased , but the rate of crude oil production is still on the increase.

c. There appears to be no direct correlation between population and crude oil production within the U.S. for the years 1950-1970. If the lines on the graph followed parallel paths or had similar shapes there would be much greater possibility of correlation.

Behavioral Objective Number

2, 3 C. "The Planet Management Game"

Learning with Simulation Games

The Planet Management Game helps students to understand contemporary problems like pollution, famines, and the population explosion Ordinarily, students are given a reading assignment on these subjects, which is apt to leave them indifferent. This simulation game is a unique alternative. It causes students to imagine that they themselves are creating global problems and trying to solve them. The results are excitement, student involvement, and learning.

Simulation games like The Planet Management Game approximate complex real-life situations and turn them into manageable learning experiences. For this reason, simulations are becoming widely used in science education. One computer program used by medical students presents them with imaginary patients to diagnose and treat. A similar simulation is used in some college chemistry classes. The student is "given" a chemical sample of unknown composition and the reagents and lab equipment to use in analyzing it; however, the entire experiment is run on a computer, not in a lab.

Overview of the Game

Players become Managers of the imaginary planet Clarion and set out to improve its living conditions. They have a budget and can choose among various projects to develop Clarion. They also have a deck of perforated cards that act as a "cardboard computer." When they are used with the data booklet, the cards produce realistic data that enables students to "observe" the results of their management decisions.

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The game begins on Clarion in the year 2,000 A.D. and runs for 50 Clarion years. But actually this is a computer-designed simulation of conditions on planet earth. By playing the game, students learn that people's lives are affected by many complex factors, including population growth, food supply, income levels, and the quality of their environment. Attempts to manage these interrelated factors may have surprising and undesirable results. For example, a project that increases income levels may also cause pollution.

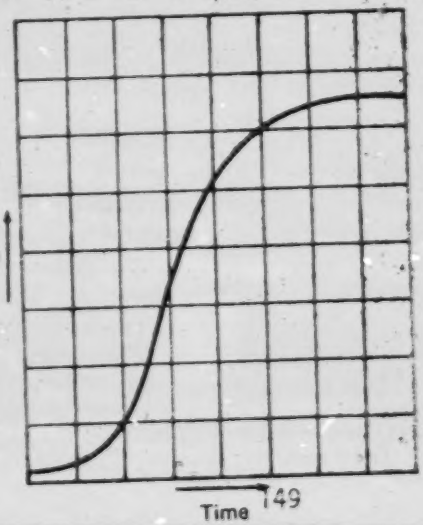
The Planet Management Game requires a small group of people to play. As few as two people could play, or as many as ten, but five is an optimum number. With five players, each can take a turn handling the materials, and no one will be left out of the discussions. Ideally, a class should have several games, and the groups of players form competing teams. Plan on using one class period to introduce the game and at least two periods to play it. Try it out yourself with some other people before using it in class.

Background on the Population Problem

Certain conditions inevitably develop on Clarion; it tends to become overpopulated and the environment deteriorates. In this way the game has obvious parallels with the current conditions on earth. Students are encouraged to recognize these parallels and thus understand some of the consequences of man's activities.

Overpopulation inevitably brings on pollution, but we ought to recognize that there are big differences among the demands that people make on the environment. The more affluent and technologically developed peoples may produce a hundred-fold more waste per person, for example, than so-called underdeveloped countries. In other words, controlling population size alone doesn't necessarily maintain a high level of environmental quality.

Practically all of our present knowledge about population growth is based on data gathered from colonies of non-human species both in nature and in laboratories. Still, there has been a persistent belief that much of this knowledge also applies to man, although we can't be sure. An established principle dealing with non-human populations and their growth is shown in the graph below. The graph shows population size as a function of time for a species within a closed system.



Graph of population size vs. time for a species that is in a closed system. A population plateau can be reached, as shown on the graph, or the population can crash.

The whole earth can be thought of as a more-or-less closed system. If the graph describes the population of man on earth, where is man on the time scale? Most estimates place the present time on the steepest part of the graph. If the present growth rate continues, the human population will probably increase until some limiting factor causes the population to level off as the graph does.

If food is the limiting factor in population size, then it is safe to predict that when the population levels off there will be less food available per person (on a worldwide basis) than there is now.

Food may not be the ultimate limiting factor. Increasing concentrations of waste products in the environment may limit population size. Other factors may also be involved. It is possible that man himself may choose to impose a limit on population growth. Stringent birth control practices could achieve this end. Advocates of such a program believe that birth control is absolutely necessary if man is to survive on this planet at something better than subsistence levels.

As with other plans to improve the human condition, self-imposed limits on population growth will occur only when a majority of the people are convinced of their necessity.

Playing the Game

Introduce the game to your class by posing a question: "What projects would you carry out to make the earth a better place to live during the next five years?" Ask what measurable results the projects might have.

Point out the obvious fact that it is not practical to conduct experiments with the whole earth. However, it is possible to simulate conditions like those on earth by using The Planet Management Game.

The data that students obtain in the game is realistic. That is, outcomes represent what might be expected to happen on a planet like earth when certain projects are done. Special efforts were made to build in some "chance" factors. Thus, in conducting a research project to develop high-yield food plants, there will be a huge increase in the food supply sometimes--not always. This situation parallels real life uncertainty. The element of chance should enhance students' perceptions of the game as being realistic.

Do not tell the students about the built-in characteristics of the game. The excitement of possible discovery is one of the game's principal appeals and gives it its unique value as an educational experience.

Demonstrate the game components and how to manipulate them. Also call attention to the Planetary Status Ledger, which is the scoreboard for the game. It is meant to be placed over a blank sheet of paper. Then the projects and results are recorded in pencil in the appropriate windows in the Ledger. One edge of the Ledger is punched

so that it can be placed in a loose leaf notebook and used with notebook paper.

The blank Game Graphs in this folder can also serve as scoreboards. They are especially useful for comparing trends, for example, which indexes go up fastest or whether some indexes rise as others fall. The graphs can be used with an overhead projector so the whole class can share results.

All the students in a game group should have a say in making the managerial decisions. This should be a cooperative activity. If a group gets to be dominated by a few people, you might suggest that players take turns deciding which projects to choose.

After the last round, players should decide for themselves how well they managed Clarion. Do not impress your criteria on the players. If two or more management teams play games simultaneously, they should decide by a vote which team got the planet to its most desirable level of development for the least money. That team is, of course, the winner. The contestants themselves should determine the criteria for winning. This is an active and often heated part of the game.

Let the participants play the game a second time after the criteria for winning have been set. The second playing should take only half as long as the first.

Follow the second playing with another discussion. This time extend the discussion to consider questions like these:

1. What kind of projects would you add to the game to achieve a more desirable end-point?

2. What strategy would you advise other players to use when they play the game?

Developed by Victor M. Shotwalter of ERC

Behavioral Objective Number

3 D. Optional

Energy of Combustion

PURPOSE AND SUMMARY

The student collects in a can of water, a good fraction of the heat produced when a candle burns. Knowing the grams of wax burned, the grams of water heated, and the change in temperature of the water, he calculates the heat of combusion per gram of wax.

SAMPLE DATA AND RESULTS OF PROCESSING THE DATA

1) MASS OF CANDLE BURNED

Mass of candle before 32.65 ± 0.01 g
Mass of candle after 31.23 ± 0.01 g
Mass of candle burned = 1.42 ± 0.02 g or $1.42 \pm 1.4\%$

2) MASS OF WATER HEATED

Volume of water heated 321 ± 2 ml
(assuming the graduated cylinder can be read $\pm$ 2 ml).

$$\text{Mass of water heated } 321 \pm 2 \text{ ml} \times \frac{1 \text{ g } H_2O}{1 \text{ ml } H_2O} = 321 \pm 2 \text{ grams}$$

3) TEMPERATURE CHANGE OF WATER, Δt

Temperature of water after $40.2 \pm 0.2°C$
Temperature of water before $10.2 \pm 0.2°C$
$\Delta t = 30.0 \pm 0.4C°$

4) HEAT REQUIRED TO WARM THE WATER

This is given by (mass of water)$(\Delta t)\left(\frac{1 \text{ cal}}{(g)(C°)}\right)$

$$(321 \pm 2 \text{ g})(30.0 \pm 0.4C°)(1)$$

or

$$(321 \pm 0.6\%)(30.0 \pm 1.3\%)(1)$$
$$9630 \pm 1.3\% \quad \text{or} \quad 9630 \pm 120$$

5) HEAT OF COMBUSTION PER GRAM OF WAX

This is given by $\frac{\text{quantity of heat from combustion}}{\text{mass of candle burned}}$

We obtain

$$\frac{9630 \pm 1.3\% \text{ cal}}{1.42 \pm 1.4\% \text{ g}} = (6800 \pm 1.4\%) \text{ cal/g}$$
$$= 6800 \pm 95 \text{ cal/g}$$

If only one uncertain digit is to be shown, this should be reported as 6800 ± 100 cal/g. This is a median student answer.

6) Do you think an experiment using a more refined calorimeter would give a higher or a lower value than the one you determined in Question 5? Explain.

Since we assumed all the heat from the burning candle was used to heat only the water, when actually some was used to heat the cans and some was lost to the air, the calculated heat of combustion should be lower than a more rigorously determined value. In the example above, the fraction might be $\frac{14{,}000}{1.42}$ to give a better value of 9900 cal/g. The handbook value is about 10,300 cal/g. This varies a bit depending on the type of wax used.

7) Most candles are made of a mixture of waxes. Assume yours was a pure wax with the formula $C_{25}H_{52}$. Calculate the heat of combustion of $C_{25}H_{52}$, $\Delta H_{combustion}$, in kcal/mole.

The molar mass of $C_{25}H_{52}$ is $25(12) + 52(1) = 352$ g/mole

$$\Delta H_{combustion} = (352 \text{ g/mole})(6800 \pm 100 \text{ cal/g})$$
$$= (2{,}400{,}000 \pm 1.4\%) \text{ cal/mole}$$
$$= 2{,}400{,}000 \pm 34{,}000 \text{ cal/mole}$$
$$= 2400 \pm 34 \text{ kcal/mole or better, } 2400 \pm 30 \frac{\text{kcal}}{\text{mole}}.$$

The uncertainty in the molar mass is small enough to be ignored.

TIMING

During Section 10-4; 40 minutes are needed.

MATERIALS NEEDED

per student

candle mounted on a lid
cans. See Lab Hint 1.
6 mm glass rod, 15–20 cm long
2 or 3 ice cubes. See Lab Hint 2.
ring stand, ring
thermometer, −20° to 150°C

per class

balance, centigram. One per two students is adequate.
graduated cylinder, 500 ml. One per four students is adequate.

LAB HINTS

1. Have students bring cans from home. Two are needed for each set. One set will handle many classes and will last for years.

   The "calorimeter" can may be size 300, 303, or a small soup can. See Lab Manual Figure 25-1. Punch holes in the soup cans before class in order to save time and to avoid accidents. Use an ice pick to start the hole, and enlarge it with the end of a file.

   The chimney should be a large juice can (size 3). Instruct the students to punch holes in the can with an old fashioned beer can opener before removing the bottom of the can. An alternate method for obtaining a draft through the "chimney" is to elevate the can by placing it on three rubber stoppers.
2. If the cold water from the tap is 10 or 15C° below room temperature, ice will not be needed in procedure (e). Starting below and finishing above room temperature tends to equalize heat exchange with the room.

PRELAB DISCUSSION

Little discussion should be needed. Encourage students to use the same balance for all weighings, and caution them about loss of wax in the form of drippings. The can should be placed directly over the candle as soon as possible after lighting the candle. Have the students record their values for cal/g on a wall chart. Such a compilation gives a basis for discussing both the accuracy and the precision involved in this experiment.

PRECAUTIONS

DO NOT get hair too close to flame. Take care that soot does not get on clothing. Wear an apron.

POSTLAB DISCUSSION

Several points can be made while discussing the class results of this experiment. The uncertainty calculations are not very difficult. They can be used to give more meaning to the ± notation. The range indicated by the ± usually includes the majority of values obtained.

Heat of combustion is as characteristic of a substance as is boiling temperature. This can be developed further if some students wish to extend the experiment by using an alcohol lamp as a source of heat. Ethyl alcohol has a heat of combustion of 7.1 kcal/g and methyl alcohol, 5.3 kcal/g.

8) (Optional) Assume some black soot formed on the bottom of the can of water during your experiment. Would this contribute to a high or a low value for $\Delta H_{combustion}$? Explain.

The soot represents unburned carbon. Had it burned, more heat would have been available. The numerator of the fraction $\frac{\text{calories of heat absorbed by water}}{\text{grams wax burned}}$ is smaller than it would have been had the soot burned. Formation of soot contributes to a low value for $\Delta H_{combustion}$. Some might argue that the black soot makes a better heat absorber than the bright can. It does. But so would a very thin film. A thick mass of soot acts as an insulator. A very thin deposit of soot might contribute to a higher than class average value for $\Delta H_{combustion}$.

9) Carbon particles, hydrocarbons, carbon dioxide and carbon monoxide

Behavioral Objective Number

Concept II Activities:

4 A. See materials list at the end of the packet for information on obtaining the publication "Nutritive Value of Foods."

Protein Foods

Food	Percent Protein Content
1. Parmesan Cheese	42.8
2. Tuna Fish	38.2
3. Swordfish	38.2
4. Brewers Yeast	37.5
5. Dried Beef	35.0
6. Chicken Breast	33.0
7. Beef Heart	31.8
8. Chicken Drumstick	31.4
9. Beef Liver	31.3
10. Sardines	29.5
11. Beef Roast	29.4
12. Swiss Cheese	28.5
13. Beef (lean and fat)	27.0
14. Veal Roast	27.0
15. Lamb Roast	25.8
16. Peanuts (Roasted)	25.8
17. Cheddar Cheese	25.0
18. Pork Roast	24.7
19. Shrimp	24.6
20. Shad	23.5
21. Chicken Flesh	23.5
22. Ham	21.2
23. Walnuts	20.8
24. Haddock	20.0
25. Salmon	20.0
26. Almonds	18.4
27. Cashews	17.2
28. Cottage Cheese (uncreamed)	17.0
29. Popcorn	16.7
30. Rye Wafers	15.4
31. Cottage Cheese (creamed)	13.5
32. Wheat Flour Whole	13.3
33. Oats Puffed	12.0
34. Egg	12.0
35. Whole Wheat Bread	10.4
36. White Bread	9.0
37. Cornmeal	9.0
38. Pecans	9.3
39. Peas	8.7
40. Lima Beans	8.4
41. Barley	8.0
42. Navy Beans	7.9
43. Rice White (enriched)	6.5
44. Dried Apricots	5.3
45. Banana Flakes	4.0

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46.	Dried Peaches	3.1
47.	Spinach	2.8
48.	Dates	2.25
49.	Rice White Cooked	1.95
50.	Oatmeal Cooked	.84

Source: "Nutritive Value of Foods," Home and Garden Bulletin No. 72, United States Department of Agriculture, January, 1971.

Behavioral Objective Number

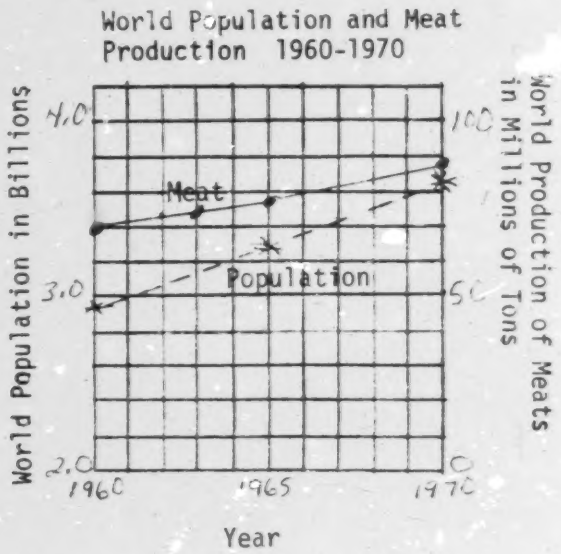
5 B. Food production and consumption data can be found in the following sources:

1. The World Almanac, 1973
   a. Production of Chief U.S. Crops, p. 976 for 1960-1971.
   b. Production and Consumption of Meat and Land, p. 980 for 1940-1971 (U.S.)
   c. Civilian Consumption of Major Food Commodities per Person, p. 981 for 1957-59 through 1971 (U.S.)

2. The American Almanac, 1973
   a. Wheat and Rice - Production by Country, Table No. 1335, p. 820 for 1961-1971 (world)
   b. Corn and Potatoes - Production by Country, Table No. 1336, p. 821 for 1961-1971 (world)
   c. Meat, sugar and cotton - Production by Country, Table No. 1337 p. 822 for 1961-1971 (world)
   d. World Summary: 1960-1970 Table No. 1316, p. 802

Sample Graph

Year	World Population In Billions	World Production In Millions of Tons
1960	2.982	70.0
1965	3.289	77.0
1970	3.632	88.3



Behavioral Objective Number

D. Some of the effects of food production on the environment are the following:

1. It is calculated that the production of food for Americans takes about 3,500 gallons of water per person per day. At this rate there would not be enough water on the earth to feed the world at the present time, let alone the projected five billion consumers by the year 2000

2. The leveling of forests for cropland leads to erosion, leaching of nutrients causing algal blooms, and the reduction of wood supplies

3. Pesticide pollution

Concept III

7, 8 A, B, and C

DATA TABLE

Year	U.S. Population Millions	Personal Income (billions) Constant Dollars	Current Dollars	*US. Total Auto Sales Thousands	U.S. Total Cars in Use Millions	Cars Scrapped Millions
1950	151.3·	274.7°	227.6ˣ	6,534+	------#	2.598*
1955	-----	335.1	310.9	7,723	47.123	3.773
1960	180.7	389.6	401.0	6,974	56.935	4.200
1965	194.3	495.8	538.9	9,660	68.935	6.163
1970	204.9	621.0	803.6	8,111	83.121	-----

Data Sources

·Total U.S. Population, American Almanac, The, 1973. Table Number 13 and on page xxi.

°ˣTotal U.S. Personal Income, American Almanac, The, 1973. Table Number 517.

+Total U.S. Auto Sales, American Almanac, The, 1973. Table Number 888.

#Cars in Use, American Almanac, The, 1973. Table Number 897.

*Cars Scrapped, American Almanac, The, 1973. Table Number 888.

Total Auto Sales Data was calculated from Factory Sales, Export and Import Data from Table 888, p. 544 of The American Almanac.

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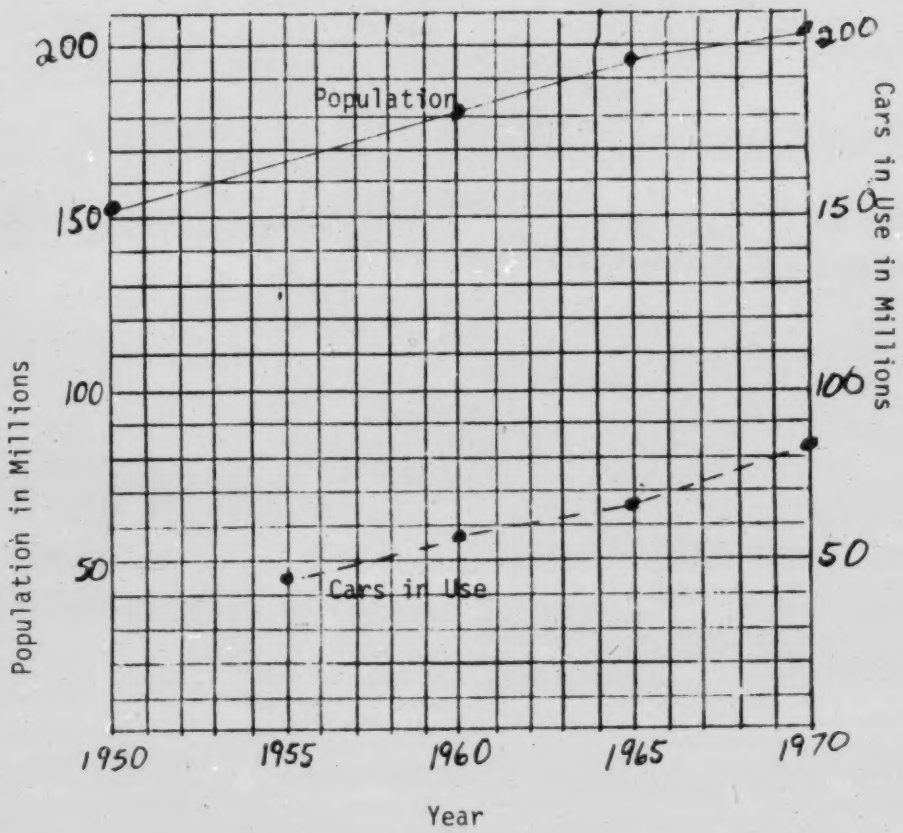
Population and Passenger Cars in Use
for 1955-1970 for the
United States



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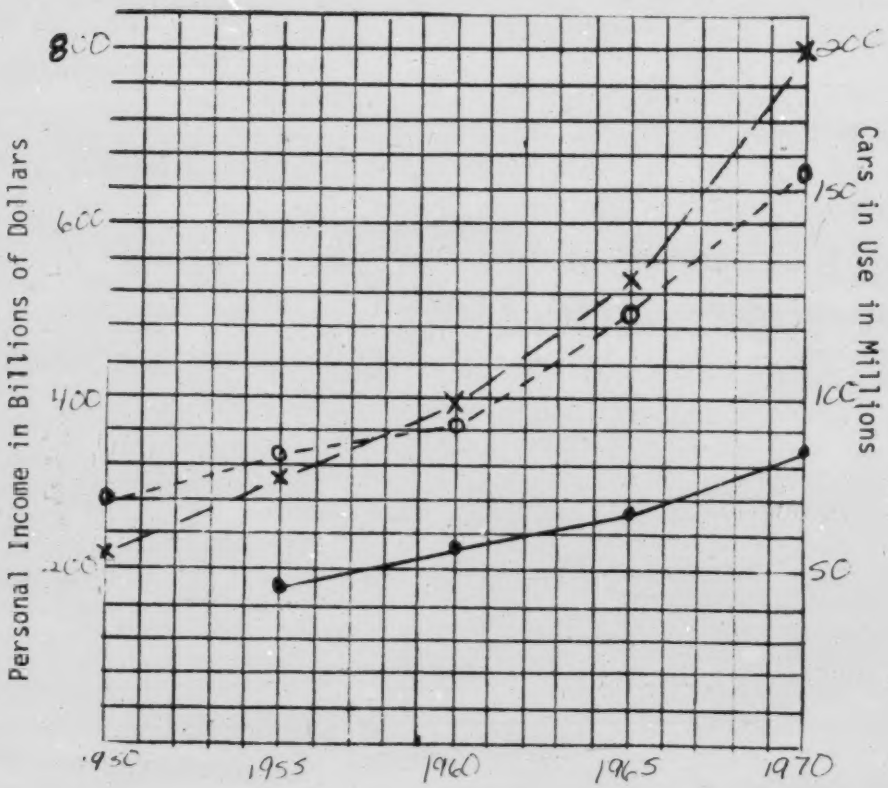
Total Personal Income and Passenger Cars
in Use for 1950-1970 for the United States



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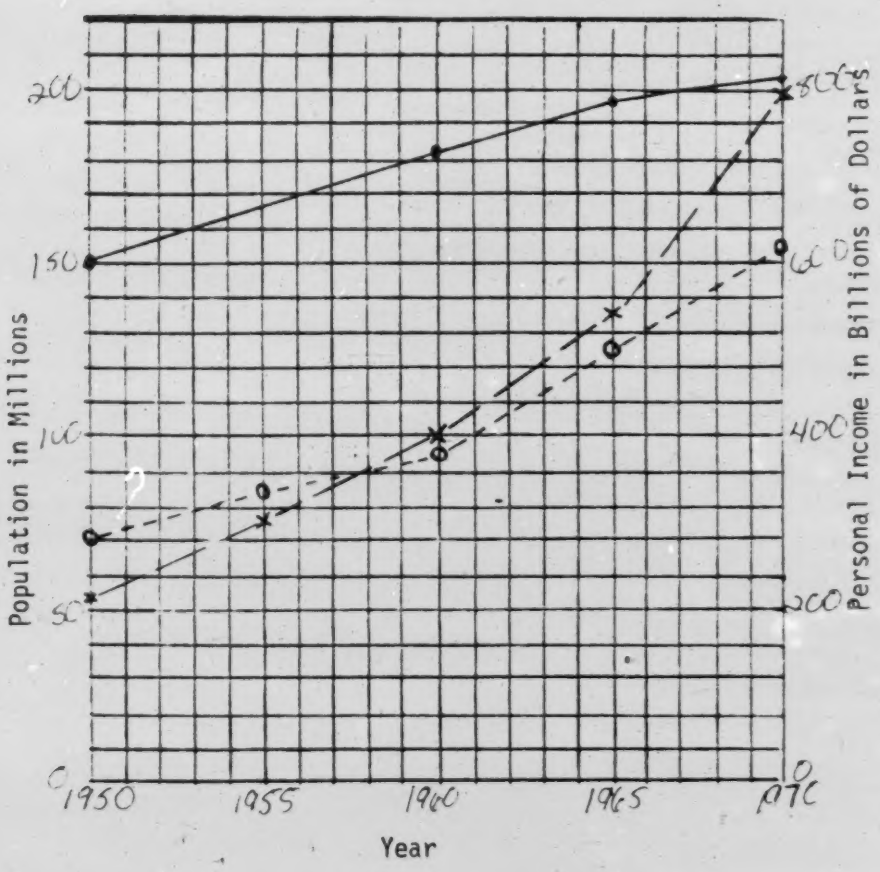
Population and Total Personal Income for
1950-1970 for the United States



Behavioral Objective Number

D. A good article on car disposal techniques is found in the book entitled How Do They Get Rid of It? by Suzanne Hilton and published by The Westminister Press in Philadelphia.

9 E. Field Trip - This trip can have several goals and help you and your students achieve several objectives.

One major goal of the trip is to let the student see how the automobile is assembled, used and reused, maintained, salvaged, and disposed of.

A second goal of the trip is to discover how the automobile industry is attempting to combat the problem of disposal of its many waste products.

This trip appears to have great possibilities, it will take you into many parts of the St. Louis area, including Granite City, Illinois. It is an ambitious trip and will take a full day of busy activity.

The places, and in some instances the people, to contact are:

1. The General Motors Assemply Plant, 383-2250. Tours start in October. Make Reservations in September. (Ford and Chrysler NO Tours).

2. Continental Auto Parts and Salvage Company, Irv Friedman, 533-8682. (47 acres of autos being scrapped and salvaged) Creve Coeur Mill Road and Cottonwood Lane

3. Lipsett Steel Products, Inc., 2520 E. 23rd Street, Granite City, Illinois. Dale Farendorf, 1-618-452-5360. (Steel recycling, press crushes auto into 2' x 5' x 30" bail).

As a part of the field trip activity the students are asked to prepare a questionnaire which will be filled out by them while they are on the trip. Some suggested questions for the questionnaire are given here:

1. At the Assembly Plant:
   What are the materials used to build an automobile?
   What is the planned lifetime of the auto in years and miles?
   What materials are recyclable?
   Which parts are reusable?

2. Of Drivers (Users of cars):
   Do the drivers consider their cars disposable judging by the way they drive and care for them?

3. At Repair Shops and Service Stations:
   Do you repair or replace worn out parts?
   At what read depth do you recommend replacement of tires?

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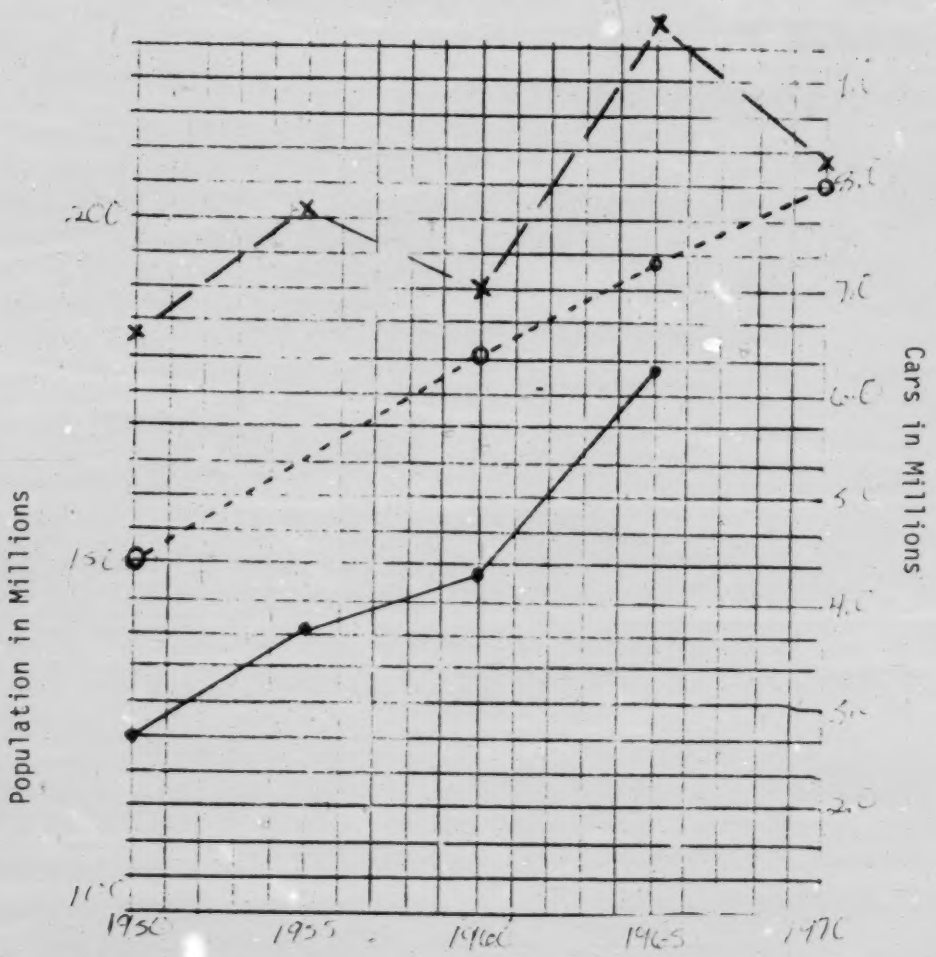
What do you do to prevent gasoline spills?
What do you do with dirty oil?
What happens to the worn out tires?

4. At the Salvage Yard:
   What parts of cars can be sold to manufacturers as scrap?
   What parts are not recyclable and are thrown away?
   What happens to the parts that are thrown away?
   What parts of cars can be used as landfill?
   What happens to the leachate which results from seepage through the landfill?

Few commercial landfills are still in business and those are unable to accept visitors. Insurance to cover possible accidents is evidently highly prohibitive.

F. Graph III

Total Population, Car Sales and Scrapped Cars for 1950-1970 in the United States



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Ehrlich, Paul R. and Anne H., Population Resources Environment Issues in Human Ecology.

Films

"The Junkdum." Contact Verlin Abbott about the possibility of procuring this film.

"House of Man: Our Changing Environment," 17 minutes, 1965, color, $9 (rental fee). Encyclopedia Britannica
Educational Corporation
Rental Library
1822 Pickwick Ave.
Glenview, IL 60025

Initially contrasts the natural ecosystem of a pond with man's environment, the city. The question is raised as to whether the problems of urban sprawl, pollution, and slums must be the perpetual legacy of the Iedustrial Age. Planning is the key concept for breaking this legacy. Especially strong on two points: (1) tracing the history of world population growth and resource use; and (2) presenting a value orientation other than an economic one.

Materials Needed

The American Almanac The U.S. Book of Facts, Statistics and Information for 1973.

The 1973 World Almanac and Book of Facts, $4.95 (handbook).

The Planet Management Game, by The Educational Research Council of America, Houghtin Mifflin Company, Geneva, Illinois. $10

Nutritive Value of Foods, Home and Garden Bulletin No. 72, by the U.S. Dept. of Agriculture.

Your home economics department should have copies which they will lend to you. To be safe, you may want to order several for your class. Purchase price 30¢ from:

Superintendent of Documents
U.S. Government Printing Office
Washington, DC 20402

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ENVIRONMENTAL ECOLOGICAL EDUCATION PROJECT

Parkway School District
Chesterfield, Missouri

DR. WAYNE FICK, Superintendent
VERLIN M. ABBOTT, Project Director

UNIT: POPULATION
Packet V

The work presented or reported herein was performed pursuant to a Title III ESEA Grant administered by the Missouri State Department of Education.

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SETTING
Packet V

Is this a true statement? Increasing populations cause an increased consumption of energy, food, and material goods, resulting directly and/or indirectly in the increased pollution of the environment and the subsequent disruption of the ecology of the earth.

Many experts feel this statement is true, while others feel factors other than population growth are responsible for increased consumption and environmental degradation.

Many experts are hoping this statement is not true since they see no end to the population explosion. How do you feel?

The activities of this packet will involve you in this issue head first, and hopefully, feet last. Head first with some game playing, literature searching, and data analyzing and feet last with some field trips, laboratory testing and art work.

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CONCEPTS AND BEHAVIORAL OBJECTIVES

I. Population increases cause a greater consumption of the natural energy resources which will result in their depletion and in the increased pollution of the environment.

Upon completion of this packet the student will be able to:

1. ...list four natural energy resources and rank them according to their projected availability in future years.

2. ...write a one sentence statement concerning the relationship between population increases and the consumption of each of the natural energy resources.

3. ...list the pollutants and the forms of pollution each energy resource releases or causes to be released as it is consumed.

II. Population increases result in increased production of foods, including those rich in nutritive proteins, the production of which is accompanied by increased usage of ecologically hazardous chemical insecticides and fertilizers.

Upon completion of this packet the student will be able to:

4. ...list and rank a set of five protein rich foods in the order of increasing protein content.

5. ...sketch a graph which compares the growth of the U.S. population with the total production of protein rich foods.

6. ...write a short paragraph of no more than 50 words discussing at least three ecological side effects which accompany the use of chemical insecticides and/or fertilizers.

III. Population increases may result in increased use of certain manufactured goods, such as automobiles, the operation and disposal of which results in the increased pollution of the environment.

Upon the completion of this packet the student will be able to:

7. ...graphically depict automobile usage data and personal income data for the years 1950-1970.

8. ...analyze a set of graphs which plot auto usage, beef production, and personal income, and write a one sentence statement which correctly identifies those factors between which a correlation appears to exist.

9. ...discuss in a paragraph of 100 words or less the ecological problems encountered in the disposal of worn out automobiles. The discussion should include the topics of recyclability, biodegradability, solid waste burnings, and landfill leachings.

Take pre test at this time.

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ACTIVITIES

Behavioral Objective Number	Concept I
1, 2, 3	A. Form a literature search group with three to five of your classmates. The goals of the group are to: a) learn of the natural energy resources and their projected availability lifetimes; b) to find the relationship, if any, which exists between population growth and energy resource depletion (production); and c) to learn of the pollutants, if any, each energy resource releases or causes to be released as it is used. To do this it will be necessary for you to research books, pamphlets, journals, and reprints provided by your teacher or those available in the library.

Part 1:

a. With the other members of the group, search the literature, making a list of the natural energy resources and the number of years each is expected to remain available.

b. Using Data Sheet #1 supplied by your teacher, list the energy resources in order from the shortest to the longest available lifetime. As in all studies of this type, it is important to record the source of your information.

Part 2:

a. Assign each group member the task of researching at least one of the energy resources to find the following information.

(1) U.S. production (consumption) data for the years 1950-1970.

(2) U.S. population data for the years 1950-1970.

b. Each group member will make a graph of his/her data using Data Sheet #2, supplied by your teacher. Use the vertical axis on the left for plotting population data and the axis on the right for the production or consumption data.

Share your graph with the group and write a one sentence statement comparing production (consumption) rates and population growth for each of the natural energy resources.

B. Optional - An interesting extra credit activity would be to find data which would permit a comparison of U.S. and world rates of consumption of energy.

C. Planet Management Game - Form a group of four or five students and play the game "Planet Management." This is a simulation game which will get you actively involved in the management of a new planet called Clarion. The four interrelated factors of population change, food supply change, income change, and environmental change are used in a fun and exciting experience in human ecology.

The game takes about two to three hours to play, so you should plan on using at least two class periods.

Behavioral Objective Number

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Keep records of your scores. After the game is finished, turn your scores, as a group, into your teacher.

D. Optional - Experiment: Energy of Combustion

In this experiment you will determine the energy released by a candle as it burns. The experiment and accompanying calculations will give you a better understanding of energy, how to measure it, and of the units by which energy is measured.

As resource material on the subject of heat energy and the techniques of measuring heat energy, it is suggested that you use a physical science, chemistry or physics text.

Everyone knows the flame of a candle releases energy. In this experiment, you will determine *how much* heat is released.

What is the source of this energy? We find that energy is needed to break chemical bonds and energy is released when chemical bonds form. The main source of energy for the candle flame is found in the balance of these energy exchanges. When a candle burns, more energy is released when the bonds form to make the products than is needed to break the bonds in the reactants. The reactants are mainly candle wax and oxygen. The products are carbon dioxide, water, and soot.

The amount of heat produced will depend on the amount of wax burned. If results from different experiments are to be compared, the same amount of wax will have to be burned in each experiment. This is very difficult to do experimentally, but very simple with a little arithmetic. If the number of calories of heat produced is divided by the grams of wax burned, the result will be calories of heat produced per one gram of wax burned.

The procedure is to determine the temperature increase of a known mass of water by adding to it the heat produced by burning a known mass of candle wax.

Before the experiment prepare a data sheet on which you can enter the data collected in the following procedure.

PROCEDURE

a. Attach a candle to a tin can lid.

b. Set up the apparatus as shown in Figure 25-1. First, without the large can in place, adjust the height of the small can so that the bottom of the can is about 2 inches above the tip of the wick. The tip of the flame should almost but not quite reach the bottom of the can.

c. Weigh the candle and lid to the nearest 0.01 gram. Record the mass of candle and lid in your data table. Note the balance number so that when you weigh the candle again you can use the same balance. Place

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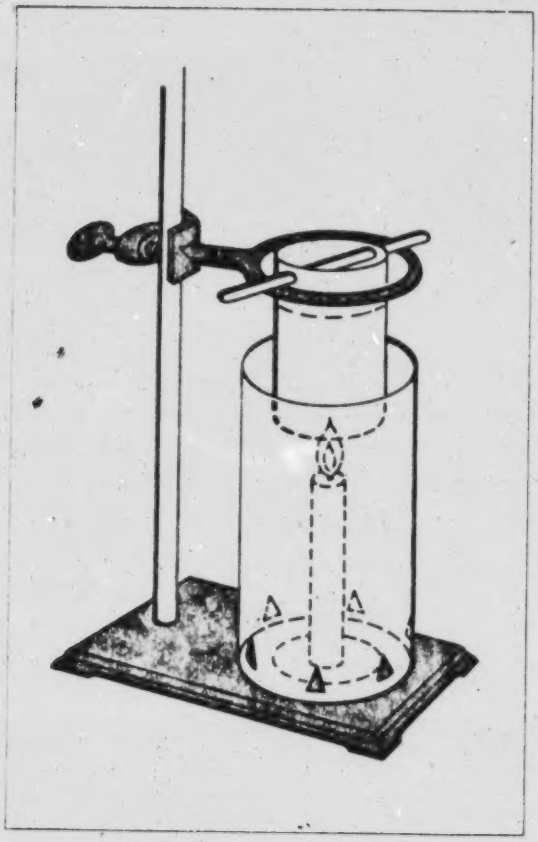

Figure 25-1

Apparatus for determining the heat of combustion.

the candle and lid in position inside the large can which protects the candle from drafts.

d. Fill the small can about two-thirds full with cold tap water. Do not measure the volume of the water at this time.

e. Cool the water with ice, if necessary, so that its temperature is about 10–15C° below room temperature. Add the ice directly to the water. Remove any remaining ice when the desired temperature has been reached.

f. Read and record the temperature of the water to the nearest 0.1C°. Light the candle and quickly place the can of water in position. Heat the water, stirring it gently, until it reaches a temperature about as much above room temperature as it was below at the start. Carefully blow out the candle flame. Continue to stir the water, while watching the thermometer reading, until the highest temperature is reached. Record the highest temperature to the nearest 0.1C°.

g. Weigh the candle on the same balance that was used to weigh it before. Make certain that any drippings from the candle are weighed with it. Record the mass.

h. Measure the volume (±1 ml) of water heated.

i. Repeat the experiment if time permits.

PROCESSING THE DATA

1) Determine the mass of candle wax burned.

2) Determine the mass of water heated. One ml of water has a mass of one gram.

3) Determine the temperature change, Δt, of the water.

4) Calculate the quantity of heat absorbed by the water in the can.

5) Calculate the heat of combustion of candle wax (calories per gram).

6) Do you think an experiment using a more refined calorimeter would give a higher or a lower value than the one you determined in Question 5? Explain.

7) Most candles are made of a mixture of waxes. Assume yours was a pure wax with the formula $C_{25}H_{52}$. Calculate the heat of combustion of $C_{25}H_{52}$, $\Delta H_{combustion}$, in kcal/mole.

8) (Optional) Assume some black soot formed on the bottom of the can of water during your experiment. Would this contribute to a high or a low value for $\Delta H_{combustion}$? Explain.

9) What pollutants or forms of pollution are evident when this candle burned?

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Behavioral Objective Number

Concept II

4 A. Nutritive Value of Foods
Using the U.S. Department of Agriculture's publication "Nutritive Value of Foods" as a reference, make a list of twenty foods which are high in protein content.* Calculate the percentage content of protein in each food and rank them on Data Sheet #3 (supplied by your teacher) in the order of highest to lowest percentage of protein.

* Note: Make every attempt to select foods from each of the four food groups: the milk group, the meat group, the vegetable and fruit group, and the bread and cereal group.

5 B. Group Literature Search

1. Assign each group member the task of researching almanacs, pamphlets, books and reprints for the following data:
   a. U.S. population for the years 1950-1970.
   b. U.S. production or consumption data for the years 1950-1970 for at least two of the protein rich foods.
   Some of this data may be difficult to find, but keep looking. If you cannot locate any data for your assigned food, pick one for which data is available.

2. Each group member will make a graph of his data placing both population and production or consumption on the same graph. Using Data Sheet #4 (supplied by your teacher) plot the population data on the left vertical axis and the production or consumption data on the axis on the right.

3. Together with your group study and discuss the graphs as well as the ideas presented by the authors of various sources used in your research.

4. In the space provided below your graph write a short conclusion concerning population growth and protein rich food production or consumption. Include in your discussion past, present, and future ramifications of your data.

C. Optional - Plot world population, food production, or consumption data for the years 1950-1970. Compare your findings with those of activity C. The U.S. is a "developed nation," how does its food production and/or consumption rate compare with that of the world?

6 D. Study the appropriate pages in The World Population Dilemma, and "Population and Resources: The Coming Collision" in your reading list, as well as any other source material dealing with food production and its ecological effects on the environment. Make a list of these effects.

Concept III:

7, 8 A. Again you must turn to the almanacs, or other reliable sources of data. This time you are looking for data which will give you a better

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Behavioral Objective Number

understanding of the pollution problem. Most people, including many experts, feel that as the population of a nation increases, the amount of pollution increases also. There are others, however, who feel that population and pollution are not directly connected. This activity will give you some insight into both sides of this issue.

The steps to follow in this activity are similar to those of activity IA, except this time you will be making three graphs instead of one.

1. Find the following information for the United States between the years 1950 and 1970.

   a. population
   b. automobiles in use
   c. total personal income
      (1) current dollars
      (2) constant 1958 dollars

2. Using Data Sheet #5 (supplied by your teacher), plot the population and automobiles (cars) in use for 1950-1970.

3. Using Data Sheet #6 (supplied by your teacher), plot the population and both sets of personal income data for 1950-1970.

4. Using Data Sheet #7 (supplied by your teacher), plot the automobiles in use and personal income data for 1950-1970.

5. Study the graphs searching for similarities and for differences. In which graphs are similarities the greatest? What are the similarities, the differences? Do population changes correlate with changes in personal income or automobile usage?

6. Write a one sentence conclusion based on your graphs and your answers to the questions of step #5. Use the space provided on the bottom of Data Sheet #7 for your conclusion.

Concept III Optional Activities:

7, 8 B. Many interesting correlations can be discovered using the technique of Activity III A. As an optional investigation, use this technique (or any other workable one) to search for correlations in population, income and consumption of electricity.

C. Optional
Using the techniques of Activity III A compare data for a developed nation such as Sweden or the U.S. to data of an undeveloped nation such as India or the Phillippines.

9 D. A research group will be used again in this activity. This time you are asked to locate literature on solid waste disposal. You will find that several people working together can cover more ground than one person working alone. Since the automobile is to be the focal point, center your search around it and the problems of its disposal.

Behavioral Objective Number

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1. Locate an article dealing with solid waste.
2. In outline form record the important thoughts and facts brought forth in the article.
3. Discuss your findings with your group and become familiar with terms such as auto graveyards, landfills, landfill leachate, recyclable, and biodegradable.
4. Write a paragraph discussing the ecological problems which accompany the disposal of a worn out automobile. Be certain to include the terms mentioned in step #3.

9 E. This field trip will take you to several interesting localities in the St. Louis area. You will see: 1) automobiles being built at an automobile assembly plant; 2) automobiles in operation on the streets and highways; 3) automobiles being serviced and repaired at various repair shops and service stations; 4) automobiles being salvaged at a huge 47 acre salvage yard; and 5) automobiles being crushed into bundles of metal at a steel products plant.

If possible, this trip will take place about the time you are working on Activity III D. You will want to have read about automobile production, maintenance, repair, salvage and disposal so you can observe from a sound frame of reference. You will want to be able to ask questions with tactfulness and from a firm knowledge base so that you do not offend or embarass your host.

Before going on the trip design a questionnaire with your class which will be filled in during the course of the trip and used for discussion during and after the trip.

F. Optional
Before going on the trip find the total number of car sales, the total numbers of cars in use, and the total number of cars scrapped in the U.S. for the years 1950-1970. Using Data Sheet #8 (supplied by your teacher) plot the data and analyze it. Are any correlations apparent? What do you suppose happens to all those scrapped cars? Would you say the automobile salvage business is in for a rise or a fall in the immediate future?

G. Optional
Create a collage of ecological problems surrounding the automobile and its disposal. Take pictures while on the field trip or elsewhere to be used in the creation of a story or a picture essay which emphasizes solutions as well as the problems.

YOU ARE TO TAKE YOUR POST-TEST AT THIS TIME.

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DATA SHEET #1

Natural Energy Resources	Projected Availability in Years	Source of Information

DATA SHEET #2

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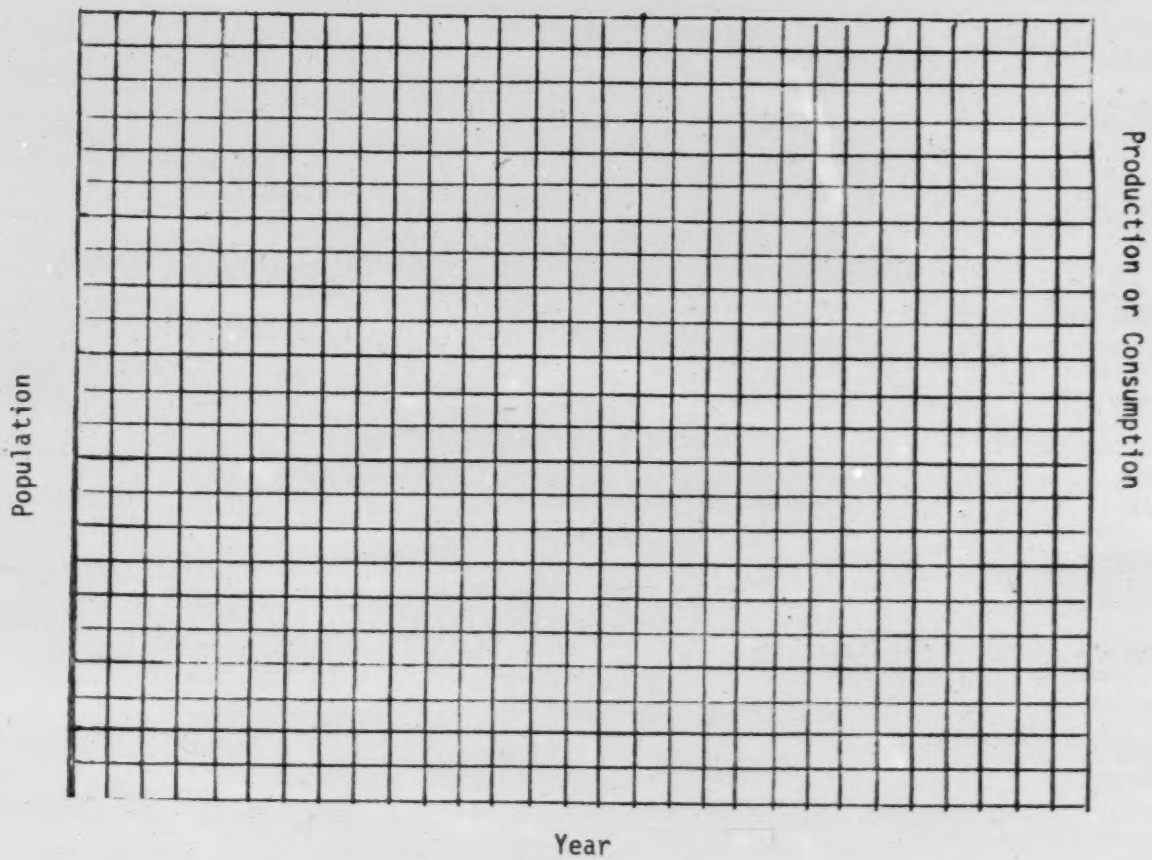
Data Table

Year	Population	Production (Consumption)

Title:



Comments:

DATA SHEET #3

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Protein Foods

Food	Protein Content (%)
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	
11.	
12.	
13.	
14.	
15.	
16.	
17.	
18.	
19.	
20.	

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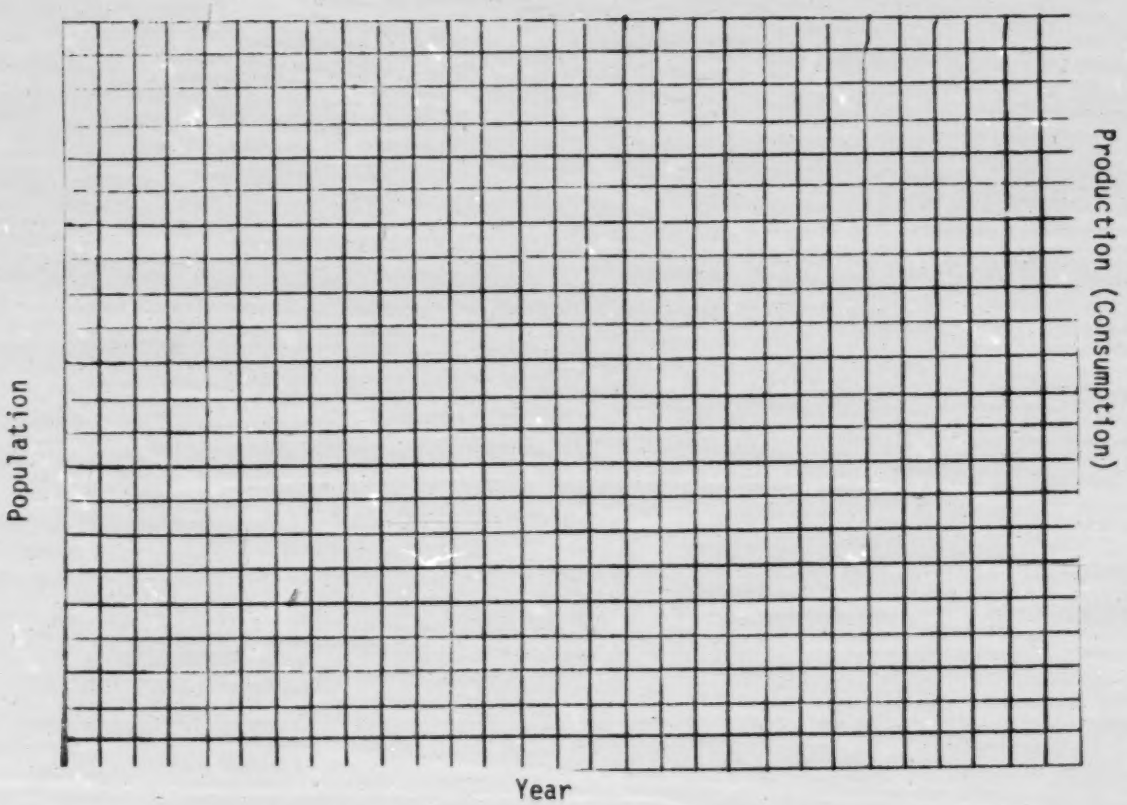
DATA SHEET #4

Data Table

Year	Population	Food #1	Food #2

Title:



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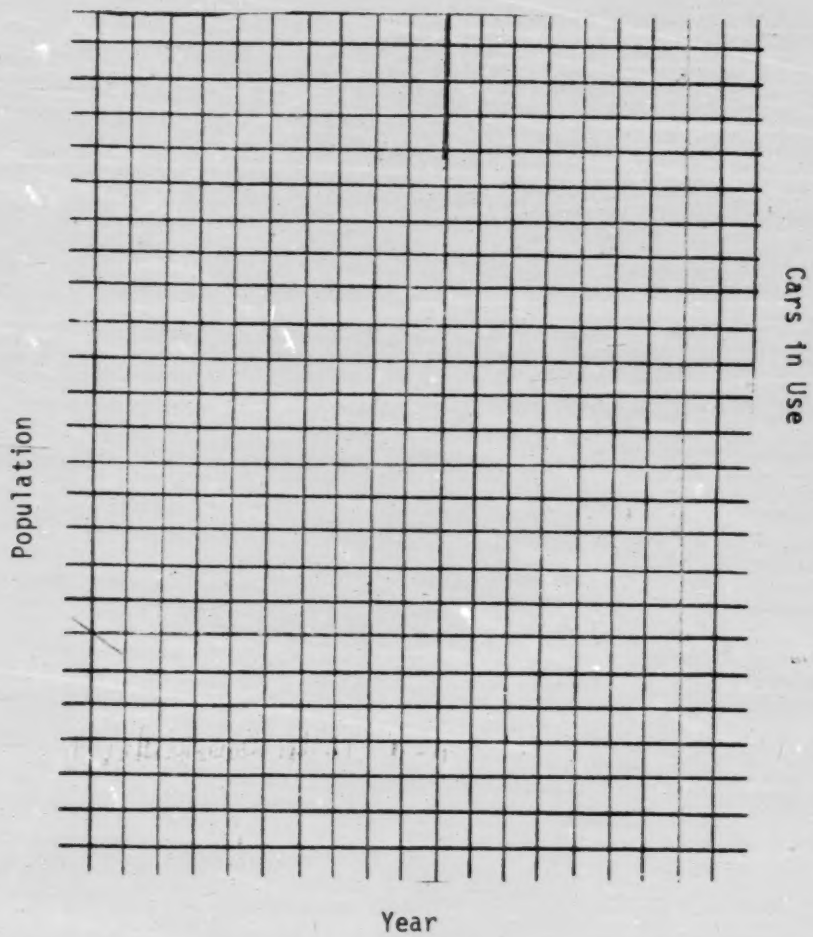
DATA SHEET #5

Data Table

Year	Population	Cars in Use

Source of Data

Title:



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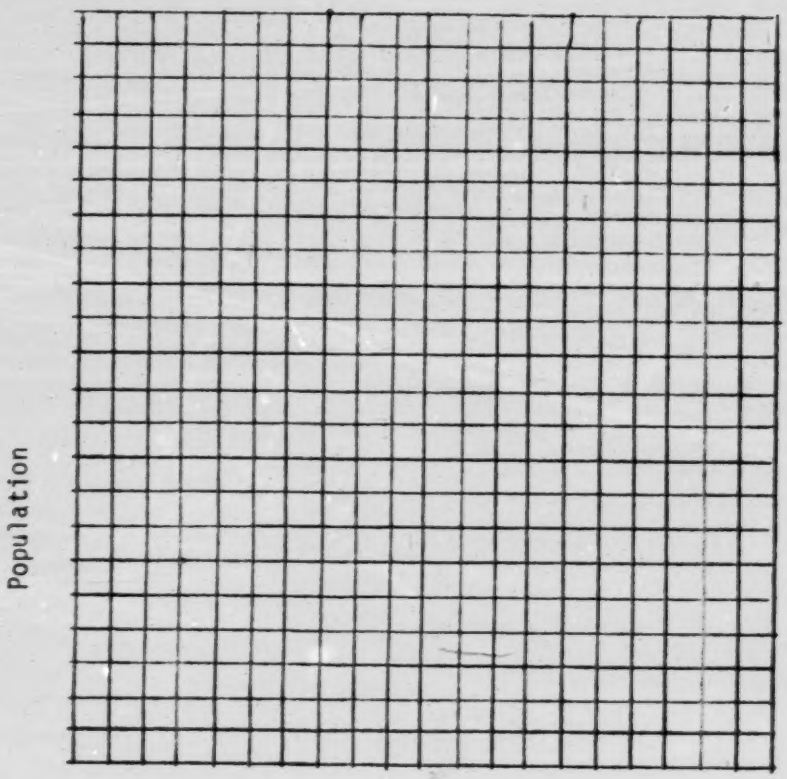
DATA SHEET #6

Data Table

Year	Population	Personal Income 1958 Dollars	Income Current Dollars

Source



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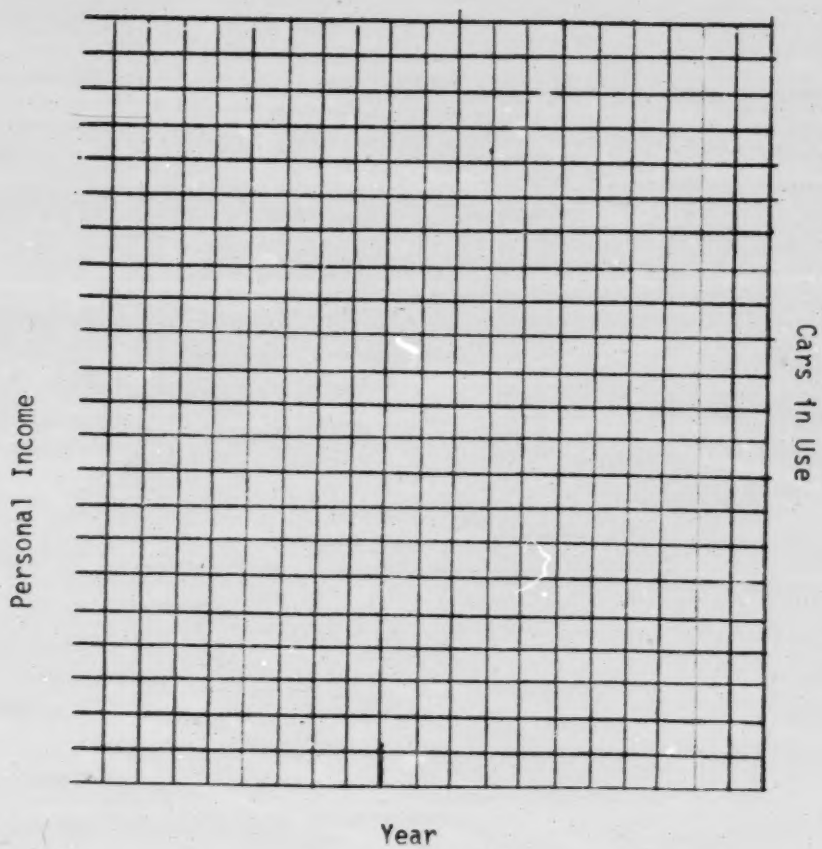
DATA SHEET #7

Data Table

Year	Cars in Use	Personal 1958 Dollars	Income Current Dollars



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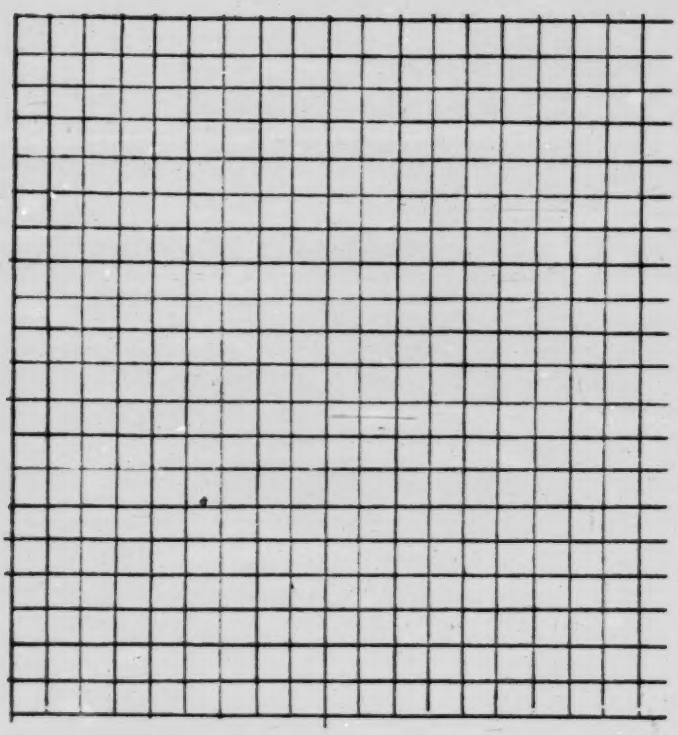
DATA SHEET #8

Data Table

Year	Autos in Use	Total Car Sales	Total Cars Scrapped



Years

Comments:

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CONTROLLING THE ENVIORNMENT

PACKET VI

CONCEPTS AND BEHAVIORAL OBJECTIVES
Packet VI

I. Federal legislation is one means of controlling environmental pollution.

1. The student will be able to state in one sentence of not more than 20 words for each area, how federal legislation has been enacted to control environmental pollution in each of the following areas:

   a. water
   b. pesticides
   c. noise
   d. air

II. Human values are influential in the control of environmental pollution.

2. The student will complete a ten question attitudinal survey containing questions which range from indifference to "extreme concern" on the issue of: "What should be done about controlling the environment."

3. The student will write a paragraph of not more than 50 words stating his position on the topic "Man must not tamper with his environment."

4. After completion of this packet, the student will be able to identify a minimum of two human values and explain in not more than a paragraph how these human values are influential in the control of environmental pollution.

PRE-POST TEST
Packet VI

Behavioral Objective Number	
1	1. State, in not more than a sentence of 20 words for each area, how federal legislation has been enacted to control environmental pollution in each of the following areas: a. air b. water c. pesticides d. noise
2	2. Complete the attached attitudinal survey and write a paragraph of not more than 25 words identifying the human values you have expressed.
3	3. Write a paragraph of not more than 50 words either supporting or opposing the statement, "Man must not tamper with his environment."
4	4. Name two universal human values and state, in a paragraph of not more than 25 words, how these two values are influential in the control of environmental pollution.

ANSWER SHEET FOR PRE-POST TEST
Packet VI

1. A variety of answers may be turned in on this question. Therefore, all that is required for your knowledge is the fact that the student must, when answering this question, state federal laws that can be verified. The Teacher Background will give you some laws that have been enacted (example The Clean Air Act of 1970). Make sure the student doesn't name ficticious laws.

2. The Attitudinal Survey is based on the eight Basic Human Values. Be sure that any values which are identified come out of that list of eight (see Instructional Sequence).

3. The student may take any position, but should express reasons why he feels this way. A good paper will be one which contains logical reasons for support. Remember, this is an expression of values and, therefore, any position is acceptable as long as it is supported.

4. See Answer 3. This is a similar assignment. However, a good paper should make mention of the "Eight Basic Human Values" (see Instructional Sequence) and how these values relate to environmental control (example: Rectitude means caring about others and, therefore, not smoking in a public place.)

Attitudinal Survey on "What Should be Done About Controlling Environmental Pollution"

Directions: You are about to read ten statements about the topic of "What Should be Done About Controlling Environmental Pollution." After each statement, circle the number which best describes your feelings about the statement. A "1" means Strongly Disagree, "2" means Mildly Disagree, "3" means Indifferent, "4" means Mildly Agree, and "5" means Strongly Agree.

1. Anyone who smokes cigarettes is an air pollutor, and should be either fined or jailed. 1 2 3 4 5

2. "Environmental control" is a big propaganda campaign, being pushed by nature freaks. 1 2 3 4 5

3. There is no such thing as a food shortage--this is a misconception. 1 2 3 4 5

4. "Something" should be done about environmental control. 1 2 3 4 5

5. Let the scientists of the world deal with environmental studies--it's not my concern. 1 2 3 4 5

6. I would donate $5 to research being conducted in the area of environmental control. 1 2 3 4 5

7. I would give one day of my time to assist in an important water pollution experiment. 1 2 3 4 5

8. I do not care if available lands are used for housing and industry rather than nature rights. 1 2 3 4 5

9. Life on earth today is most important. We shouldn't sacrifice time and money to make things "possibly" better for people in the year 3000. 1 2 3 4 5

10. Littering is just as serious as theft, and the punishment should be of an equal amount. 1 2 3 4 5

BASIC HUMAN VALUES

Harold D. Lasswell, of Yale University, determined that there are eight universal values or needs, wants, and aspirations prized in any culture or group.

These values, described below, are necessary for all human beings. If a human being is deprived of any one or more of these eight categories, he will have difficulty in any society, especially ours. Severe deprivation could result in mental illness or various delinquent types of behavior which could deprive him of a positive educational experience in school.

The eight value categories are described as follows:

1. Respect refers to the degree of recognition given to, or the degree of discrimination against, people in their capacity as human beings; it includes concern for authority, flag, country, peers, adults, self.

2. Will is the ability to provide for one's needs adequately; to develop talents that increase one's productivity to appreciate and care for material objects with which one comes into contact.

3. Power refers to participation in decision making that affects self and group values; it refers to development of leadership and scholarship talents.

4. Enlightenment is the process of improving one's ability to make intelligent decisions in a problem-solving situation, of understanding abstractions and mastering problem-solving techniques.

5. Skill is the development of productive talents and social, communicative, physical, mental, and aesthetic areas.

6. Rectitude is the degree of concern one has for the welfare of others and the degree of responsibility one has for his own conduct in association with others.

7. Well-being refers to the mental and physical health of the individual, and to his attitude toward fitness and his ability to participate effectively in physical activities.

8. Affection is liking others and being liked--feeling love and friendship for persons in primary and secondary relationships. In this context, primary relationships are those involving one and another; secondary relationships are those between an individual and an institution or group.

BACKGROUND INFORMATION
Packet VI

The first packet was concerned with introducing the student to the idea of population as a dynamic force. The packets which followed concern areas which are affected by related to population. This packet is a general attempt to have the students think about causes of population problems, and possible solutions to the controversies accompanying population changes.

With this in mind, the two concepts of the unit are directed toward the students realizing that there are legal or legislative solutions to the "people problem." But, ultimately, the people themselves determine the kind of lifestyle they are going to lead. Most of this packet concerns itself with human values and how individual and community value systems influence our concern for the environment.

The teacher should handle this packet not so much from a wealth of background material on environmental studies; but on the sociological premise that we are all human beings and we all have value systems. Some of the activities in the unit make reference to Lasswell's "Basic Human Values," Which can be found in the accompanying background information.

Most of the discussions in the unit will depend on how skilled you are in leading discussions and how open-minded you can be about listening and interpreting the value systems of your pupils. For your convenience, we have included some information about value analysis as well as environmental information. You may also wish to refer to the Teacher Bibliography for additional sources.

Concept I

The Environmental Revolution Enters A Crucial Phase

Between the idea and reality,
Between the motion and the act,
Falls the shadow.

— T.S. Eliot

BY GLADWIN HILL

THE ENVIRONMENTAL REVOLUTION, now four years old, is entering a new phase.

We've had the dawn of awareness, the clamor for reform, a spate of legislation. Now comes the time of working a lot of bright hopes and plans through to fruition.

As William D. Ruckelshaus, head of the Environmental Protection Agency, put it recently: "We're in a gap between the time of commitment and progress visible to the man in the street."

Whose job is this critical new phase – and what are the chances of success?

Gladwin Hill is National Environmental Correspondent of The New York Times *and author of a new book on environmental issues,* Madman In A Lifeboat.

Cliches aside, it seems clear that this new chapter in the Environmental Revolution inescapably involves everybody – government, business (both industrial and agricultural), communities, organized conservation groups, and citizens . . . and that success hinges on the degree of coordinated effort among them.

What are our objectives and responsibilities?

Laws give part of the blueprint. Our target date for major achievements in air pollution is 1977. The new Water Pollution Control Act sets deadlines of 1977 (for application of "best practicable" control technology) and 1983 (for use of "best available" technology).

Timetables on the abatement of the other pollutions are less explicit. The 1972 Noise Control Act gave the Environmental Protection Agency 18 months to promulgate

standards for built-in noise reduction in all kinds of mechanical equipment, but from there on it's up to localities to muffle the din of equipment in use. Progress in solid waste management is primarily up to the nation's 15,000 communities. Reclamation of strip-mined land awaits definitive Federal and state action. Radiation, the last of the pollution categories emphasized by the Council on Environmental Quality in its 1972 report, is largely an anticipated problem – one area where we can apply an ounce of prevention instead of tons of cure.

Progress is not going to be automatic in any of these areas. Laws can be nullified by anemic appropriations and bureaucratic cowardice. Enforcement can be thwarted by crafty foot-dragging, specious bellyaching and obfuscation of facts and figures.

We've already seen some strenuous efforts to undermine the National Environmental Policy Act. Fortunately that law is a hard thing to impugn because its focal injunction is so simple: We should look before we leap. The unarguability of this is the law's strength. But despite its simplicity, it imposes tough restrictions in a society where commercial profit, without regard to side effects, has been sacrosanct justification for so many activities.

We've already heard a chorus of lamentation that environmental cleanup will cripple industry. Even some usually responsible publications have peddled the myth of "hundreds" of factories being closed. (A New York Times invitation to industrial spokesmen in key states to name three of these "hundreds" of afflicted enterprises yielded "uhhhhhhhh–s" rather than specifics.) The fact is, of course, that an enterprise that will be bankrupted by pollution control costs is an enterprise that *by its own definition* has survived *only* by virtue (or vice) of polluting – a role hardly acceptable to its competitors or the public.

We've already seen the Administration and Congress crawfishing on needed regulation. An example was the way the issue of airplane noise, the most ubiquitous and annoying of the pollutants, was finessed in the 1972 Noise Control Act. The Federal Aviation Agency, handmaiden of the airlines, didn't want to yield jurisdiction over noise, and the EPA (in what may have been the first time a government agency didn't grab for more territory) demurred at accepting responsibility.

Obfuscation? The air pollution director of a large western city where coal-burning power plants ride high in the saddle solemnly assured me: "Most of our sulphur dioxide comes from automobiles . . ." – which is, of course, nonsense. We've all heard some industrialist say that "technology" was lacking to cope with his water pollution – which hasn't been true since God invented the pond.

Another obstructive tactic is to imply that the environmentally aware are some sort of "elitist" minority, where actually they speak for a universal desire: an agreeable standard of life, measured in physical terms that are a far commoner denominator than money.

Progress will depend a lot on how quickly people rid themselves of the notion that government – Federal, state or local – left to its own devices, will do the job. Government is not a self-propelling mechanism. Just as it gets every cent it has from citizens' pockets, so it gets impetus only from citizen pressures.

Industry, left to its own devices, is not going to bring about the Environmental Millennium. For one thing, industry bears only one part of the responsibility for environmental problems. Secondly, while corporations may make impressive gestures for the sake of public relations, management's basic *legal* obligation is to make money for shareholders. While "corporate responsibility" in a social sense is growing and is helpful, it would be unwise to place the burden of resource-use decisions on 300,000 individual industrial enterprises. In fairness to all, there have to be uniform ground rules, based on a citizen consensus.

Government invites citizen pressure

"The cause of environment is one which the citizens have made. Citizens identified problems, organized to influence government actions, made themselves heard in public hearings, brought actions before administrative agencies and in the courts, and helped the press interpret their concerns . . ."

Those words came, a full two years ago, not from any agitator in the "conservation lobby," but from the White House's ecological chaplain, Russell E. Train, chairman of the Council on Environmental Quality. When an occupant of public office thus virtually solicits citizen pressure, it seems worth hearkening to.

"But," still comes the lament from many a citizen, "what can one lone person do?" The answer of course is that there are a lot of things an individual not only can but should do. Many people might begin by simply finding

out where their local sewage plant is and how adequate a job it's doing – rather than gazing at the river and mourning its pollution. Or finding out which local air polluters have been granted variances and why – rather than bemoaning murky skies. Environmental regulation now is a succession of public hearings. Any candid legislator will confirm that the presence of citizen observers at such hearings has a powerful effect on actions that are taken.

Every two years citizens get their say at the polls. In electoral dynamics, the "environmental vote" stands where organized labor and other historic minority movements stood a generation or two back: it can't win battles alone – it has to pick its shots carefully and try to be the pivotal force amid other issues.

In last November's election, the power of the "environmental vote" reached a new high. Of about 60 gubernatorial and Congressional candidates on which environmental interest was focused, some 45 won, and in a number of cases the environmental vote was manifestly decisive.

But policy questions arising by the week can't be shaped with biennial nudges. A typical Congressman has 400,000 constituents, and if even one percent of them tried to register their views with him as individuals, the result would be useless babel. That is where conservation organizations come in as vital conduits of public sentiment to the halls of government. Organization pressures have figured critically in major achievements of the Environmental Revolution: air and water pollution legislation, the blocking of the SST, the deferral of the Alaska pipeline, the halting of the Florida barge canal and the Everglades jetport, and a score of other items. In the new phase of the Environmental Revolution, conservation organizations, such as the National Wildlife Federation, will continue to spearhead the vital citizen pressures that Russell Train bespoke.

The breadth of the environmental movement was dramatized at the United Nations Conference on the Human Environment at Stockholm last June. In the face of some opinion that environmental quality was too sophisticated a concept for the underdeveloped "Third World," delegates of 113 nations participated, representing over 90 percent of the world's people. There was remarkable consensus on global environmental problems; on environmental responsibilities between and among nations; and on a program of specific reparatory and protective steps. Though the Soviet Union boycotted Stockholm for purely political reasons, the conference's impetus was quickly evidenced in the October agreement under which selected Russian and United States cities will be linked in environmental research observations.

The most important aspect of the Environmental Revolution's new phase is the rapid emergence of the *real* environmental problems. The pollution abatement with which we have been preoccupied is only the "dirty dishes" prelude to the real task of putting our environmental house in order.

Real problems of resource use now emerging

Thrusting themselves upon us are questions of far larger and more complex dimensions: land use, resource management, energy production, public transportation, population stabilization, and the broad issue of Growth. Air and water pollution, as well as the complex problems involving the best use of natural resources, are graphically summarized in the 1973 EQ Index inside this foldout.

Threatened energy shortages, the fuel squeeze, and the ineffectiveness of recycling efforts are telling us something: that we must stop gobbling resources as if they were limitless and make some rational plans for stretching them through the eternity to which we pay lip service.

And we can't go on much longer playing ostrich about the population bomb, and looking on advocates of population limitation as mere eccentrics or evil abortion-promoters. Living space around the globe and in this country is finite: humanity can't go on multiplying exponentially without nullifying the environmental progress for which we're struggling. Limiting population is as valid an issue as limiting the number of people allowed to crowd into an auditorium so they won't all perish in a holocaust. The issue is whether the problem is handled calmly and reasonably or via panic button, strife and misery.

Nor is the question of Growth nearly as abstruse as many people have suggested. It's entirely a matter of whether you define growth in terms of quantity or quality. In terms of quantities, the notion of endless growth, in a finite world, is absurd. In terms of quality, the potential is indeed infinite.

This next "generation" of environmental problems is not going to wait for the next generation of *us*. It's here. The shadow that T. S. Eliot sketched is upon us. □

Source: National Wildlife Foundation

1973 EQ Index

Concept II

VALUES AND TEACHING

As our society enters the stage in which persons' physical needs are increasingly easily satisfied by an increasingly productive and efficient economy, other problems come into focus. One of these, already evident to many in the Western world, deals with the question of what to do with the extra time and energy left over after work is done. The problems older and younger people in our society have in confronting this question can be seen most dramatically. How pitiful is the older person left with time and energy but nothing to do with them. In a similar situation are those young people, perhaps the majority of them, for whom schoolwork and family life are not adequately fulfilling. And, is the situation different for the increasing numbers of housewives who kill time by running in circles? Devoting one's life to picking up the children after Cub Scouts only to deliver them to dancing class does not seem very satisfying to many. And what about the working man who finds his increasing leisure as much a burden as a blessing?

The problem is simply stated: What is to be done with one's life and force? Once a question mainly for philosophers, in these times of increasing complexity and change and abundance, it is a question that challenges almost all of us, although often we move through our lives unaware of it. This is its terrible power: it is a question that cripples us as long as it remains unanswered. A growing tragedy is that it is not usually even asked. Witness the teenager who does little other than escape to temporary, sometimes desperate, excitements. Witness the job-hopper who seems unable to find any work satisfying. Witness the student who daydreams, unmoved by the combined exhortation of teachers and parents and with an occasional threat from the principal thrown in. Witness, too, the successful adult who achieves what he was supposed to achieve only to wonder what it was all for: "If this is success, why did I want it?"

We would say that these people, and they are legion in our increasingly affluent society, may well suffer from unclear sets of values. Such persons seem not to have clear purposes, to know what they are for and against, to know where they are going and why. Persons with unclear values lack direction for their lives, lack criteria for choosing what to do with their time, their energy, their very being. It seems unlikely that animals other than humans can have values. It is one of our most precious potential gifts. Yet it seems increasingly apparent that all too few humans do, indeed, have clear values.

That is why we have written this book. It outlines a theory of values and a methodology for the clarification of values. It shows how to work with others so as to help them clarify their own values. It should be useful to persons of all ages and walks of life, but is directed most specifically to those who work professionally with children, such as teachers. It is an eminently practical book in that it shows how the theory of values operates and how procedures grow from the theory. Furthermore, the theory is set up in such a way that the reader can give it a test of his own.

This can be, we feel, a very important book. The evidence already in shows that the reported procedures have helped many students change patterns of behavior that were characterized by apathy, drift, conformity, and underachievement. In different words, many students have been helped to become more purposeful, more enthusiastic, more positive, and more aware of what is worth striving for. This, of course, is the kind of behavior teachers and parents have wanted to promote for some time but, until recently, clear procedures based on adequate theory have not been available. It is hoped that the theory and the procedures discussed in this volume will help with this important, and gratifying, task.

Values and Teaching Raths and Simon, C. Merrill Pub., Co. Columbus, Ohio, 1966.

Objectives of Value Analysis

JERROLD R. COOMBS

□ Having students analyse, discuss, and decide value questions, particularly those about which there is public controversy, has recently become the subject of renewed concern among social studies teachers. Despite their concern, many teachers cannot operate effectively in this area because of confusion and uncertainty. They are confused as to what, if any, legitimate educational objectives are to be obtained by such value analysis. This in turn produces uncertainty about procedures to be used by the teacher in directing value analyses, and about the means of evaluating student achievement resulting from such exercises. The purpose of this chapter is to make a start at clarifying the objectives of value analysis.

Some Preliminary Clarification

If we are to become clear about objectives, we must begin by being clear about the terms we use in talking about value analysis, particularly the term "value." Very often the term "value" is used in such a way as to be ambiguous. For example, in some contexts it may refer either to the things people hold to be of worth or to the standards by which people judge the worth of things. To avoid confusion we will use the term only in the phrase "value judgments." Value judgments may be defined roughly as those judgments which rate things with respect to their worth. The following statements express value judgments.

1. Nixon is a good president.
2. Washington is a beautiful city.
3. Capitalism is an efficient economic system.
4. War is mass murder.
5. The sinking of the *Titanic* was a disaster.
6. Proportional representation is an adequate way of giving voice to the will of the people.
7. The U.S. ought to stop testing nuclear weapons.
8. Presidents should be elected by direct popular vote.

Words such as "good," "beautiful," "efficient," "murder" are called "evaluative terms" or "rating terms" because they are commonly used to rate things with respect to their worth. The terms "ought" and "should" are also evaluative terms when they are used in prescriptive statements, i.e., statements telling us what to do. Such statements can be translated into statements containing more obvious evaluative terms. If some action ought to be taken or should be taken, then it is either right or desirable to take the action.

We will refer to the thing being rated in the value judgment as the "value object." Almost any sort of thing can be a value object. We evaluate physical objects, events, people, actions, institutions, and practices as well as classes of such things. In the statements above, Nixon, Washington, capitalism, war, sinking of the *Titanic*, proportional representation, testing nuclear weapons, and direct popular election of presidents are all value objects.

Value judgments may contain positive evaluations, negative evaluations, or neutral evaluations. For example, statements 1 and 2 express positive evaluations, statements 4, and 5 express negative evaluations, and statement 6 expresses a neutral evaluation. A positive evaluation places the value object high on some scale of worth, a negative evaluation places it low, and a neutral evaluation places it around the midpoint.

Evaluative terms vary with respect to how much they tell us about the value objects to which they are applied. Some evaluative terms such as "good" and "bad" tell us nothing definite about the characteristics of value objects, while other terms such as "murder" give us quite a bit of information. The judgment that Nixon is a good president tells us nothing definite about President Nixon. But the judgment that war is mass murder does tell us something about war, namely that it entails deliberate killing on a large scale.

One other feature of value judgments is worthy of mention. There are several different points of view according to which we assess value objects. We may assess a value object from an aesthetic, a moral, an economic, or a prudential point of view. Other points of view can be identified, but these are the most important.[1] In addition, we may make an overall judgment of the worth of the value object, taking into account various points of view. Some evaluative terms ordinarily are used to make assessments from only one point of view. For example, "beautiful" and "ugly" ordinarily rate things from an aesthetic point of view. "Efficient" rates things from an economic point of view. "Immoral" rates things from a moral point of view, and "wise" conveys a prudential rating. Most evaluative terms can be used with reference to more than one point of view. "Good," "bad," "desirable," and "undesirable" can be used to rate things from virtually any point of view. We shall have more to say about the various points of view in a later section of this chapter. We will be particularly concerned with the moral point of view since it is the one which causes most confusion.

Value judgments are diverse and complex, having many guises and many functions. What has been said so far is not meant to be an exhaustive portrayal of such judgments. However, it should help us avoid confusion in discussing the objectives of value analysis.

Values Education, Edited by L. W. Metcalf. National Council for the Social Studies, Washington, DC, 1971.

YOU SHOULD ADMINISTER THE PRE-TEST AT THIS TIME

INSTRUCTIONAL SEQUENCE

PACKET VI

Behavioral Objective Number	
	Concept I:
1	A. The suggested list of fields for this activity are air pollution, water pollution, pesticides and noise pollution. If the students need suggestions for companies to contact, recommend McDonnell - Douglas, Monsanto, Interco, and Mallinckrodt. Since this activity requires the use of the telephone, you may wish to assign it as homework. If this is to an all class activity, you may wish to divide the class into four groups so that everyone will have a field to research. You will need to compile the research data and redistribute it to the class so that each student will have a copy of each field's developments.
1	B. We suggest that you discuss each field separately, (i.e., water first). Put the results on the chalkboard in general terms. For those companies which have compiled on a partial basis, you may wish to ask the students why they feel that only partial compliance has been completed. You may also wish to have one of the students state the pollution law itself before delving into each field's present situation in relation to the law.
	Concept II:
2	A. Have the students fill out the attitudinal survey, Data Sheet 1, (run off enough copies for your class). When completed, post the number of students who voted for each category on the board so that all students can see the results. Then discuss what human value might be attached to each category. For example, if 20 students mark "5" for question one, you might say that the value of power was being displayed. (See the description of "Eight Human Values"). You may also wish to discuss how a strong feeling on any one point might lead to new or improved legislation.
3	B. Have the students form two opposing positions, one favoring and are opposing the statement, "man must not tamper with his environment." If you have a large class, you may want to simply appoint a chair person for each side, then let the class carry out the research for the chair persons who will be doing the debating.

Behavioral Objective Number		
4	C	For this activity the students will need to refer to Data Sheet #1 and the Human Values, Data Sheet #2 to identify and define the human values. (Return to them their attitudinal surveys if you have not already done so. They will need these to determine which values they referred to the most.) Ask them to write one paragraph each for two values they identified in this activity. They should describe how each value that they identified relates to their attitudinal survey.

TEACHER BIBLIOGRAPHY
Packet VI

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ENVIRONMENTAL ECOLOGICAL EDUCATION PROJECT

Parkway School District
Chesterfield, Missouri

DR. WAYNE FICK, Superintendent
VERLIN M. ABBOTT, Project Director

UNIT: POPULATION
Packet VI

The work presented or reported herein was performed pursuant to a Title III ESEA Grant administered by the Missouri State Department of Education.

SETTING

BEST COPY AVAILABLE

In previous packets, you have been given a chance to see what the "population explosion" means and specifically, how the increased population has played a large role in the complex problems which befall man in his environment. Hopefully, you have come to understand that many facets of your social, economic and political surroundings, i.e., your environment, can be traced to variations in population.

However, it is also hoped that you have come to realize that the "community" is really nothing more than what the people living in a given area choose to make it. Man and his environment are too closely related to be separate from one another. Increases in the number of people and the types of people who reside in a community will have far reaching affects on the total environment. Ultimately, then, man himself is responsible for controlling and capable of solving environmental problems. He may choose to alter his economic situation or even use legislative control to accomplish this. But in the end, each man must search his own value system to find solutions for environmental problems. Consequently, we see that more people in the environment means a greater variety of personal feelings concerning how that environment should be governed. In the end, we realize that economic policies, social mores or even legislative acts regarding the environment will only be the outgrowth of what a majority of the individuals in the community feel they value the most in life.

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CONCEPTS AND BEHAVIORAL OBJECTIVES
Packet VI

I. Federal legislation is one means of controlling environmental pollution.

1. The student will be able to state in one sentence of not more than 20 words for each area, how federal legislation has been enacted to control environmental pollution in each of the following areas:

   a. water
   b. pesticides
   c. noise
   d. air

II. Human values are influential in the control of environmental pollution.

2. The student will complete a ten question attitudinal survey containing questions which range from indifference to "extreme concern" on the issue of: "What should be done about controlling the environment."

3. The student will write a paragraph of not more than 50 words stating his position on the topic "Man must not tamper with his environment."

4. After completion of this packet, the student will be able to identify a minimum of two human values and explain in not more than a paragraph how these human values are influential in the control of environmental pollution.

AT THIS TIME TAKE THE PRE-TEST

BEST COPY AVAILABLE

ACTIVITIES

Behavioral Objective Number	
	Concept I:
1	A. In this activity you are to join five or six others in a small research group. Your group is to choose a field from among the following: water, pesticides, noise pollution and air. Then contact various companies in that field to learn if and how they have complied with federal Environmental Pollution laws. Record your findings and submit a copy to your teacher. These findings will be compiled and distributed to the class.
1	B. You are to take part in a class discussion and analyze the findings of research projects in activity A that dealt with legislation on Environmental Pollution.
	Concept II:
2	A. You will complete a ten question attitudinal survey, Data Sheet #1, which will be supplied by your teacher, containing questions which range from "indifference" to "extreme concern" on the issue of: "What should be done about controlling environmental pollution." Then you will analyze your survey as to the human values which can be identified. In a class discussion which will follow, be prepared to identify and explain your two values to the class.
3	B. You will actively participate in, and be able to defend your position, in a debate on the topic: "Man must not tamper with his environment."
4	C. Using data sheet #2, analyze your attitudinal survey. Then identify on a separate sheet of paper two human values which are most frequently expressed in the survey. Explain in a paragraph how two values that you have identified are related to your completed attitudinal survey.

DATA SHEET #1

BEST COPY AVAILABLE

Attitudinal Survey on "What Should be Done About Controlling Environmental Pollution"

Directions: You are about to read ten statements about the topic of "What Should be Done About Controlling Environmental Pollution." After each statement, circle the number which best describes your feelings about the statement. A "1" means Strongly Disagree, "2" means Mildly Disagree, "3" means Indifferent, "4" means Mildly Agree, and "5" means Strongly Agree.

1. Anyone who smokes cigarettes is an air polluter, and should be either fined or jailed. 1 2 3 4 5

2. "Environmental control" is a big propaganda campaign, being pushed by nature freaks. 1 2 3 4 5

3. There is no such thing as a food shortage--this is a misconception. 1 2 3 4 5

4. "Something" should be done about environmental control. 1 2 3 4 5

5. Let the scientists of the world deal with environmental studies--it's not my concern. 1 2 3 4 5

6. I would donate $5 to research being conducted in the area of environmental control. 1 2 3 4 5

7. I would give one day of my time to assist in an important water pollution experiment. 1 2 3 4 5

8. I do not care if available lands are used for housing and industry rather than nature rights. 1 2 3 4 5

9. Life on earth today is most important. We shouldn't sacrifice time and money to make things "possibly" better for people of the year 3000. 1 2 3 4 5

10. Littering is just as serious as theft, and the punishment should be of an equal amount. 1 2 3 4 5

Now, consider your answers and discuss them with your teacher. Try to analyze your survey as to the human values which can be identified because of the responses you made to certain questions.

BASIC HUMAN VALUES

BEST COPY AVAILABLE

Harold D. Lasswell, of Yale University, determined that there are eight universal values or needs, wants, and aspirations prized in any culture or group.

These values, described below, are necessary for all human beings. If a human being is deprived of any one or more of these eight categories, he will have difficulty in any society, especially ours. Severe deprivation could result in mental illness or various delinquent types of behavior which could deprive him of a positive educational experience in school.

The eight value categories are described as follows:

1. Respect refers to the degree of recognition given to, or the degree of discrimination against, people in their capacity as human beings; it includes concern for authority, flag, country, peers, adults, self.

2. Will is the ability to provide for one's needs adequately; to develop talents that increase one's productivity to appreciate and care for material objects with which one comes into contact.

3. Power refers to participation in decision making that affects self and group values; it refers to development of leadership and scholarship talents.

4. Enlightenment is the process of improving one's ability to make intelligent decisions in a problem-solving situation, of understanding abstractions and mastering problem-solving techniques.

5. Skill is the development of productive talents and social, communicative, physical, mental, and aesthetic areas.

6. Rectitude is the degree of concern one has for the welfare of others and the degree of responsibility one has for his own conduct in association with others.

7. Well-being refers to the mental and physical health of the individual, and to his attitude toward fitness and his ability to participate effectively in physical activities.

8. Affection is liking others and being liked--feeling love and friendship for persons in primary and secondary relationships. In this context, primary relationships are those involving one and another; secondary relationships are those between an individual and an institution or group.

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